

file PNM / rec / 92



Analytical **Technologies**, Inc.

2709-D Pan American Freeway, NE Albuquerque, NM 87107
Phone (505) 344-3777 FAX (505) 344-4413

ATI I.D. 212326

December 28, 1992

New Mexico Environment Department
P. O. Box 26110
Santa Fe, NM 87502-6110

Project Name/Number: PNM DEC 9

Attention: Steve Alexander

On 12/09/92, Analytical Technologies, Inc. received a request to analyze **aqueous** sample(s). The sample(s) were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Elizabeth Proffitt
Laboratory Manager

EP:td
Enclosure



Analytical Technologies, Inc.

Jane's copy

ORIGINAL INVOICE

AL No 70240

Albuquerque Office: 2709-D Pan American Fwy., NE
Albuquerque, NM 87107
(505) 344-3777

Remit To:
Analytical Technologies, Inc.
P. O. Box 840436
Dallas, Texas 75284-0436

Billed to: NM ENVIRONMENT DEPARTMENT
P.O. BOX 26110
SANTA FE, NM 87502-6110

Accession No.: 9212-326
Date: 12/28/92
Client No.: 340-566
810

Attention: ACCOUNTS PAYABLE

Telephone: 505-827-4300

Authorized by: STEVE ALEXANDER

P.O. Number:

Samples: 11 AQ received 12/09/92

Project: PNM DEC 9

Project No.: PNM DEC 9



TEST DESCRIPTION	QUANTITY	PRICE	TOTAL
EPA Method 8010	-10 % 10	135.00	1215.00
***** Amount due: 1215.00 *****			

TERMS: Net 30 Days - 1½% Finance Charge on Balance Due over 30 days.

ORG. CHROM. (APP. 111)

ANAL. NO. 10000000

TEST : ORGANOCHLORINE PESTICIDES & COM. (APP. 111)

CLIENT	: NEW MEXICO ENVIRONMENTAL DEPT.	LAB. NO.	10000000
PROJECT #	: (NONE)	DATE RECEIVED	10/10/77
PROJECT NAME	: SOLVDEC 18	DATE EXAMINED	10/10/77
CLIENT I.D.	: SLV-1,2,3,4,5,6,7,8	DATE ANALYZED	10/10/77
SAMPLE MATRIX	: NON-AQUEOUS	WTLTS	100
		DILUTION FACTOR	1

COMPOUNDS

RESULTS

*** ANALYSIS IS INCOMPLETE ***

GCMS - RESULTS

ATI I.D. : 21234501

TEST : SEMI-VOLATILE ORGANICS (EPA 8270)

CLIENT	: NEW MEXICO ENVIRONMENTAL DEPT.	DATE SAMPLED	: 12/15/92
PROJECT #	: (NONE)	DATE RECEIVED	: 12/15/92
PROJECT NAME	: SOLVDEC 15	DATE EXTRACTED	: 12/21/92
CLIENT I.D.	: SLV-1,2,3,4,5,6,7,8	DATE ANALYZED	: 12/24/92
SAMPLE MATRIX	: NON-AQUEOUS	UNITS	: MG/KG
		DILUTION FACTOR	: 25

COMPOUNDS	RESULTS
N-NITROSODIMETHYLAMINE	<4.2
PHENOL	<4.2
ANILINE	<4.2
BIS(2-CHLOROETHYL)ETHER	<4.2
2-CHLOROPHENOL	<4.2
1,3-DICHLOROBENZENE	<4.2
1,4-DICHLOROBENZENE	<4.2
BENZYL ALCOHOL	<4.2
1,2-DICHLOROBENZENE	<4.2
2-METHYLPHENOL	<4.2
BIS(2-CHLOROISOPROPYL)ETHER	<4.2
4-METHYLPHENOL	<4.2
N-NITROSO-DI-N-PROPYLAMINE	<4.2
HEXACHLOROETHANE	<4.2
NITROBENZENE	<4.2
ISOPHORONE	<4.2
2-NITROPHENOL	<4.2
2,4-DIMETHYLPHENOL	<4.2
BENZOIC ACID	<21.2
BIS(2-CHLOROETHOXY)METHANE	<4.2
2,4-DICHLOROPHENOL	<4.2
1,2,4-TRICHLOROBENZENE	<4.2
NAPHTHALENE	<4.2
4-CHLOROANILINE	<4.2
HEXACHLOROBUTADIENE	<4.2
4-CHLORO-3-METHYLPHENOL	<4.2
2-METHYLNAPHTHALENE	<4.2
HEXACHLOROCYCLOPENTADIENE	<4.2
2,4,6-TRICHLOROPHENOL	<4.2
2,4,5-TRICHLOROPHENOL	<21.2
2-CHLORONAPHTHALENE	<4.2
2-NITROANILINE	<21.2
DIMETHYLPHTHALATE	<4.2
ACENAPHTHYLENE	<4.2
3-NITROANILINE	<21.2
ACENAPHTHENE	<4.2
2,4-DINITROPHENOL	<21.2
4-NITROPHENOL	<21.2
DIBENZOFURAN	<4.2
2,4-DINITROTOLUENE	<4.2
2,6-DINITROTOLUENE	<4.2

(CONTINUED NEXT PAGE)

GCMS - RESULTS

ATI I.D. : 21234501

TEST : SEMI-VOLATILE ORGANICS (EPA 8270)

COMPOUNDS	RESULTS
DIETHYLPHTHALATE	<4.2
4-CHLOROPHENYL-PHENYLEETHER	<4.2
FLUORENE	<4.2
4-NITROANILINE	<21.2
4,6-DINITRO-2-METHYLPHENOL	<21.2
N-NITROSODIPHENYLAMINE	<4.2
4-BROMOPHENYL-PHENYLEETHER	<4.2
HEXACHLOROBENZENE	<4.2
PENTACHLOROPHENOL	<21.2
PHENANTHRENE	<4.2
ANTHRACENE	<4.2
DI-N-BUTYLPHTHALATE	<4.2
FLUORANTHENE	<4.2
BENZIDINE	<42.5
PYRENE	<4.2
BUTYLBENZYLPHTHALATE	<4.2
3,3-DICHLOROBENZIDINE	<8.5
BENZO(a)ANTHRACENE	<4.2
BIS(2-ETHYLHEXYL)PHTHALATE	<4.2
CHRYSENE	<4.2
DI-N-OCTYLPHTHALATE	<4.2
BENZO(b)FLUORANTHENE	<4.2
BENZO(k)FLUORANTHENE	<4.2
BENZO(a)PYRENE	<4.2
INDENO(1,2,3-cd)PYRENE	<4.2
DIBENZO(a,h)ANTHRACENE	<4.2
BENZO(g,h,i)PERYLENE	<4.2

SURROGATE PERCENT RECOVERIES

NITROBENZENE-D5 (%)	80
2-FLUOROBIPHENYL (%)	96
TERPHENYL (%)	105
PHENOL-D6 (%)	66
2-FLUOROPHENOL (%)	61
2,4,6-TRIBROMOPHENOL (%)	85

ADDITIONAL COMPOUNDS (SEMI-QUANTITATED)

TEST : SEMI-VOLATILE ORGANICS (EPA 8270)

ATI I.D. : 21234501

COMPOUNDS

RESULTS

TOTAL EXTRACTABLE
HYDROCARBONS C8-C13

300

GCMS - RESULTS

ATI I.D. : 21234501

TEST : SEMI-VOLATILE ORGANICS (EPA 8270)

CLIENT	: NEW MEXICO ENVIRONMENTAL DEPT.	DATE SAMPLED	: 12/15/92
PROJECT #	: (NONE)	DATE RECEIVED	: 12/15/92
PROJECT NAME	: SOLVDEC 15	DATE EXTRACTED	: 12/21/92
CLIENT I.D.	: SLV-1,2,3,4,5,6,7,8	DATE ANALYZED	: 12/24/92
SAMPLE MATRIX	: NON-AQUEOUS	UNITS	: MG/KG
		DILUTION FACTOR	: 25

COMPOUNDS	RESULTS
ACETOPHENONE	<4.2
2-ACETYLAMINOFLUORENE	<4.2
a,a-DIMETHYLPHENETHYLAMINE	<4.2
4-AMINOBIPHENYL	<4.2
ARAMITE	<21.2
CHLOROBENZILATE	<4.2
DIALATE	<4.2
2,6-DICHLOROPHENOL	<4.2
DIMETHOATE	<4.2
p-(DIMETHYLAMINO)AZOBENZENE	<4.2
7,12-DIMETHYLBENZO(a)ANTHRACENE	<4.2
3,3'-DIMETHYLBENZIDINE	<4.2
m-DINITROBENZENE	<4.2
DIPHENYLAMINE	<4.2
ETHYL METHANESULFONATE	<4.2
HEXACHLOROPHENE	<4.2
HEXACHLOROPROPENE	<4.2
ISOSAFROLE	<4.2
METHAPYRILENE	<4.2
3-METHYLCHOLANTHRENE	<4.2
METHYL METHANESULFONATE	<4.2
3-METHYLPHENOL (m-CRESOL)	<4.2
1,4-NAPHTHOQUINONE	<4.2
1-NAPHTHYLAMINE	<4.2
2-NAPHTHYLAMINE	<4.2
5-NITRO-O-TOLUIDINE	<4.2
4-NITROQUINOLINE-1-OXIDE	<4.2
N-NITROSODODIETHYLAMINE	<4.2
N-NITROSODI-BUTYLAMINE	<4.2
N-NITROSOMETHYLETHYLAMINE	<85.0
N-NITROSOMORPHOLINE	<4.2
N-NITROSOPIPERIDINE	<4.2
N-NITROSOPIRROLIDINE	<4.2
PENTACHLOROBENZENE	<4.2
PENTACHLORONITROBENZENE	<4.2
PENTACHLOROETHANE	<4.2
PHENACETIN	<4.2
p-PHENYLENEDIAMINE	<4.2
2-PICOLINE	<4.2
PRONAMIDE	<4.2
SAFROLE	<4.2

(CONTINUED NEXT PAGE)

GCMS - RESULTS

ATI I.D. : 21234501

TEST : SEMI-VOLATILE ORGANICS (EPA 8270)

COMPOUNDS	RESULTS
1,2,4,5-TETRACHLOROBENZENE	<4.2
2,3,4,6-TETRACHLOROPHENOL	<4.2
O-TOLUIDINE	<4.2
1,3,5-TRINITROBENZENE	<4.2

GCMS - RESULTS

ATI I.D. : 21234502

TEST : VOLATILE ORGANICS (EPA 8240)

CLIENT	: NEW MEXICO ENVIRONMENTAL DEPT.	DATE SAMPLED	: 12/15/92
PROJECT #	: (NONE)	DATE RECEIVED	: 12/15/92
PROJECT NAME	: SOLVDEC 15	DATE EXTRACTED	:
CLIENT I.D.	: SLV-TB	DATE ANALYZED	: 12/24/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	:

COMPOUNDSRESULTS

*** ANALYSIS IS INCOMPLETE ***



DEC 30 '92 01:57PM ATI ALBUQUERQUE

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER STEVE ALEXANDER

COMPANY: NMED - HRMB

ADDRESS: P.O. Box 26110

PHONE: 505-827-4308

FAX: 4361

BILL TO:

COMPANY:

ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Petroleum Hydrocarbons (MOD 8015) Gas/Diesel	Dispersed/Gasoline BTX/EPA#5 (MOD 8014-8020) BTX/EPA#5 (8020)	Chlorinated Hydrocarbons (501, 5010)	Aromatic Hydrocarbons (502, 5020)	SDWA Volatiles (502.1/503.1), 502.2/503.2, 503.3/504.3	Pesticides/PCB (608/6080)	Herbicides (615/6150)	Base/Neutral/Acid Compounds GC/MS (625/6270)	Volatile Organics GC/MS (624/6240)	Polynuclear Aromatics (610/6310)	610	614	SDWA Primary Standards - Arizona	SDWA Secondary Standards - Arizona	SDWA Primary Standards - Federal	SDWA Secondary Standards - Federal	9010	9030	The 13 Priority Pollutant Metals	RCRA Metals by Total Digestion	RCRA Metals by TCLP (1311)	NUMBER OF CONTAINERS	
SLV-1	12/15/92	9:00 AM	WATER	1									X														N
SLV-2	12/15/92	9:00 AM	WATER	2						X		X															N
SLV-3	12/15/92	9:00 AM	WATER	3						X																	N
SLV-4	12/15/92	9:00 AM	WATER	4						X																	N
SLV-5	12/15/92	9:00 AM	WATER	5										X													N
SLV-6	12/15/92	9:00 AM	WATER	6										X													N
SLV-7	12/15/92	9:00 AM	WATER	7																	X						N
SLV-8	12/15/92	9:00 AM	WATER	8																		X					N
SLV-TB	12/15/92	9:00	AQ	9									X														N

PROJECT INFORMATION		SAMPLE RECEIPT	
PROJ. NO.: <u>SOLVDEC15</u>	NO. CONTAINERS: <u>14</u>	CUSTODY SEALS: <u>W/ETKA</u>	RECEIVED N/ACT: <u>Y</u>
PROJ. NAME: <u>SOLVDEC15</u>	RECEIVED CKD: <u>Y</u>	RECEIVED CKD: <u>Y</u>	
P.O. NO.:	PRICR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS		
SHIPPER VIA:	<input type="checkbox"/> (RUSH) 24hr <input type="checkbox"/> 48hr <input type="checkbox"/> 72hr <input type="checkbox"/> 1 WEEK <input checked="" type="checkbox"/> (NORMAL) <input type="checkbox"/> 2 WEEK		
Comments: <u>Combined all samples as one per J. Cramer.</u>			

SAMPLED & RELINQUISHED BY: 1		RELINQUISHED BY: 2		RELINQUISHED BY: 3	
Signature: <u>Jane Cramer</u>	Time: <u>9:40</u>	Signature: <u>James E. Seubert</u>	Time: <u>9:40 A</u>	Signature:	Time:
Printed Name: <u>JANE CRAMER</u>	Date: <u>12/15/92</u>	Printed Name: <u>JAMES E. SEUBERT</u>	Date: <u>12/15/92</u>	Printed Name:	Date:
Company: <u>NMED</u>	Phone: <u>827-4313</u>	Company: <u>NMED - 827-4308</u>		Company:	
RECEIVED BY: 1		RECEIVED BY: 2		RECEIVED BY: (ATL)	
Signature:	Time:	Signature:	Time:	Signature: <u>James E. Seubert</u>	Time: <u>9:40</u>
Printed Name:	Date:	Printed Name:	Date:	Printed Name: <u>James E. Seubert</u>	Date: <u>12/15/92</u>
Company:		Company:		Analytical Technologies, Inc.	



PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER: STEVE ALEXANDER

COMPANY: NMED - HRMB

ADDRESS: P.O. BOX 26110

PHONE: 505-827-4308

FAX: 4361

BILL TO:

COMPANY:

ADDRESS:

ANALYSIS REQUEST

Petroleum Hydrocarbons (418.1) (MOD 8015) Gas/Diesel	Diesel/Gasoline/BTXE/MTBE (MOD 8015/8020) BTXE/MTBE (8020)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	SDWA Volatiles (502.1/503.1), 502.2 Reg. & Unreg.	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	6 D10	614	SDWA Primary Standards - Arizona	SDWA Secondary Standards - Arizona	SDWA Primary Standards - Federal	SDWA Secondary Standards - Federal	9010	9030	The 13 Priority Pollutant Metals	RCRA Metals by Total Digestion	RCRA Metals by TCLP (1311)	NUMBER OF CONTAINERS
							X														N
						X	X														N
					X																N
					X																N
									X		X										2
																X					1
																	X				1
							X														1

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
SLV-1	12/15/92	9:00 AM	AD	1
SLV-2	12/15/92	9:00 AM		2
SLV-3	12/15/92	9:00 AM		3
SLV-4	12/15/92	9:00 AM		4
SLV-5	12/15/92	9:00 AM		5
SLV-6	12/15/92	9:00 AM		6
SLV-7	12/15/92	9:00 AM		7
SLV-8	12/15/92	9:00 AM		8
SLV-TB	12/15/92	9:00	AR	9

PROJECT INFORMATION	SAMPLE RECEIPT
PROJ. NO.: <u>SOLVDEC15</u>	NO. CONTAINERS: <u>4</u>
PROJ. NAME: <u>SOLVDEC15</u>	CUSTODY SEALS: <u>(Y) N/NA</u>
P.O. NO.:	RECEIVED INTACT: <u>Y</u>
SHIPPED VIA:	RECEIVED COLD: <u>Y</u>

SAMPLED & RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: <u>[Signature]</u> Time: <u>9:40</u>	Signature: <u>[Signature]</u> Time: <u>9:40 A</u>	Signature: _____ Time: _____
Printed Name: <u>Jane Cramer</u> Date: <u>12/15/92</u>	Printed Name: <u>JAMES E. SEUBERT</u> Date: <u>12/15/92</u>	Printed Name: _____ Date: _____
Company: <u>NMED</u> Phone: <u>8274313</u>	Company: <u>NMED - 827-4308</u>	Company: _____

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) 24hr 48hr 72hr 1 WEEK (NORMAL) 2 WEEK

Comments:

RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY: (LAB) 3.
Signature: _____ Time: _____	Signature: _____ Time: _____	Signature: <u>[Signature]</u> Time: <u>9:40</u>
Printed Name: _____ Date: _____	Printed Name: _____ Date: _____	Printed Name: <u>JOSE, DUTRA</u> Date: <u>12/15/92</u>
Company: _____	Company: _____	Company: <u>Analytical Technologies, Inc.</u>



Analytical **Technologies**, Inc.

We received the samples as indicated on the attached Chain-of-Custody.

Your project ID: SOLV DEC 15

ATI's assigned accession #: 212345

ATI Lab Project Manager (LPM): Beth Proffitt

Our anticipated report mail date: 1/7/93

Comments: _____

Please review the attached Chain-of-Custody for completeness. If you note any discrepancies, please notify your assigned LPM immediately.

TERMS AND CONDITIONS

Sample Bottles and Containers

Provided at no additional charge. Containers not used should be returned.

Sample Return

The cost of disposing of samples has risen substantially. ATI has not increased its prices to reflect this charge, however, ATI reserves the right to return hazardous samples to the client. Please notify ATI if this cannot be accommodated.

Payments

Payments are due net 30 days. Invoices not paid within 60 days will be assessed 1-1/2% interest per month. All prices subject to change without notice.

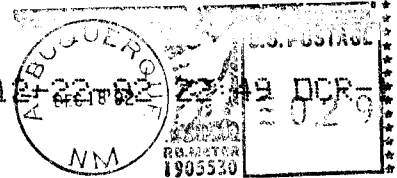
LIMIT OF LIABILITY AND INDEMNIFICATION

ATI will perform the services, within the limits prescribed by Client, in a manner consistent with that level of care and skill ordinarily exercised by analytical laboratories currently practicing under similar conditions and circumstances and performing similar services. By using the data or analysis performed by ATI, Client acknowledges that the total liability of ATI, its directors, officers, agents, or employees to Client arising out of or in connection with the services to be provided herein shall not exceed the invoiced amount for said services. Client agrees to indemnify and hold harmless ATI from all claims, damages and losses including cost of defense in connection with or arising out of performance of the services, excepting claims, damages and losses resulting from ATI's sole negligence or willful misconduct. The foregoing shall apply notwithstanding any provisions to the contrary in any client purchase order issued hereunder.

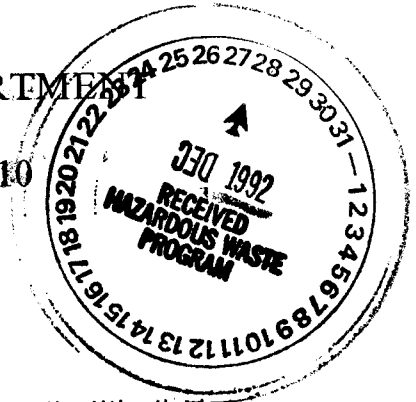


Analytical **Technologies, Inc.**
2709-D Pan American Freeway, NE
Albuquerque, NM 87106

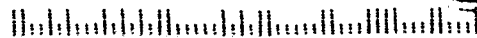
ABQ N.M. 87101-9998 12-23-92



NM ENVIRONMENT DEPARTMENT
P.O. Box 26110
Santa Fe, NM 87502-6110



ATTENTION: Steve Alexander



TOPICS TO DISCUSS WITH NMED 12-14-92

1. What organics should we test for? why? what conditions?
2. Under what circumstances could the vertical extent of contamination be left undetermined below a sampling cutoff depth?
3. In determining action levels, do we use maximum observed levels or exposure unit averages?
4. How many samples are required for
verification of prior cleanup?
sampling previously ignored areas?
5. How do we assess risk? how many years into the future?
6. How big is a Hot Spot?what concentration?
7. Is there or is there not a pathway to the deep aquifer from the TA-1 surface? What demonstrations/studies?
8. What criteria are used to determine acceptance/rejection of the colocation hypothesis (rad & non-rad)?
9. Should some samples be composites for appropriate assessment of future risks?
- 10.
- 11.
- 12.
- 13.