3R - 21

GENERAL CORRESPONDENCE

YEAR(S):
1991

Southern
Rockies
Business
Unit

San Juan Operations Center

August 9, 1991

NMOCD
P. O. Box 2088
Santa Fe, NM 87504

Attn: David Boyer

File: BDS-31-986

Composting Update

This will confirm our earlier phone conversation. Amoco anticipates additional compost time will be required due to low moisture. An additional 45 days is requested to complete the test project. We also request that misting with fresh water, as the piles are turned, be allowed to maintain moisture levels.

Test procedures will also be modified to use the California method (8015). Actual TPH is possibly being masked by clay. We also had two dump truck loads of oily soil appear on site from another Amoco location. Our field foreman was not aware of our restrictions. Therefore, we request approval to compost this material also. No additional material will be allowed on site.

Please call if you have any questions (505) 326-9219.

B. D. Shaw
Environmental Coordinator

BDS/slb

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

May 24, 1991

CERTIFIED MAIL
RETURN RECEIPT NO. P-327-278-137

Mr. Buddy Shaw
Environmental Supervisor
Amoco Production Company
200 Amoco Court
Farmington, New Mexico 87401

RE: Treatment of oily soil located at Gallegos Canyon Unit No. 216, SE/SW Section 14-T28N, R12W

Dear Mr. Shaw:

The New Mexico Oil Conservation Division (NMOCD) has received your letter of May 20, 1991, containing proposed procedures for analysis of the composed material at the completion of the test at the GCU #216 location. The proposed analytical schedule is acceptable to OCD and Amoco is authorized to proceed with the test provided other necessary agency approvals have been obtained. At completion of the test, and prior to removal from the site of the remediated mixture, sample results must be reviewed and approved by OCD.

If you have any questions, you may contact me at (505) 827-5812.

Sincerely,

David G. Boyer, Hydrogeologist
Environmental Bureau Chief

DGB/sl

cc: OCD Aztec Office
E. Rebuck, NMED-Groundwater
D. Tomko, NMED-Farmington

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal	Time	Date
	11 AM	8/7/91

Originating Party	Other Parties
Ruddy Shaw, AMOCO 326-9219	Dave Boyer

Subject: Soil Remediation at GCU #216

Discussion: MR. Shaw called to request permission to add WW sludge to a new batch of soil that was brought to GCU #216 from another AMOCO site. The soil was moved by AMOCO workers without Shaw's knowledge. Results of testing still show high TPH but the use of Method 418.1 may show high TPH results (vs. use of modified 8015). Shaw is going to check methods. Soil is cooking at 110-165°F one test in and 116-158°F 3FT into pile. TPH results still >1000 ppm (vs 100 OCD guidelines)

Conclusions or Agreements: I approved use of sludge on the second pile and extension both tests for another 45-days (until Monday September 23). Verbal approval will be followed with a letter request by AMOCO

Distribution: AMOCO-Soil Remediation File
Aztec District Office

Signed: David E. Boyer

BRUCE KING
GOVERNOR

State of New Mexico
ENVIRONMENT DEPARTMENT
Harold Runnels Building
1190 St. Francis Drive, P.O. Box 26110
Santa Fe, New Mexico 87502
(505) 827-2850

JUDITH M. ESPINOSA
SECRETARY

RON CURRY
DEPUTY SECRETARY

May 24, 1991

Tom Wethington
Director, Water and Wastewater
City of Farmington
800 Municipal Drive
Farmington, NM 87401

Dear Mr. Wethington:

This letter is in regard to the treatment of oily soil at Amoco Production Company's Gallegos Canyon Unit No. 216 in SE,SW Section 14, T28N, R12W. I reviewed the correspondence from David Boyer, Environmental Bureau Chief, NM Oil Conservation Division (OCD) regarding this matter, although not the application materials submitted by Amoco Production Company. I understand that the Amoco Production Company is proposing to mix the oily soil, horse manure, sludge from the Farmington wastewater treatment plant, and waste paper, and compost the mixture.

The specific concern of the City of Farmington is meeting all applicable regulatory requirements. As you are aware the NM Environment Department (NMED) along with EPA regulate sludge disposal, whereas the OCD has jurisdiction for oily soils related to oil and gas production. Mr. Boyer and I discussed this project when it was first proposed. Rather than doing two reviews, we agreed that Mr. Boyer would review and act on the application pursuant to the NM Oil and Gas Act. From my years of working with Mr. Boyer, I am confident that his review and approval provides equivalent protection of water quality as would have been provided had the NMED handled the permitting effort. With respect to EPA, the City of Farmington still has the responsibility of complying with applicable federal regulations, specifically 40CFR257.

I understand from my telephone conversation with Buddy Shaw on May 24, 1991 that the Amoco Production Company is taking full responsibility for the composting activity. Furthermore none of the composted material from this initial pilot project is to be moved off-site.

Should there be subsequent efforts of this type involving a significant amount of sludge from the Farmington wastewater treatment plant, the NMED anticipates a greater and more direct involvement with the permitting thereof.

I trust this letter addresses the concerns leading to your request.

Sincerely,

Ernest C. Rebuck
Program Manager
Ground Water Section

cc: Buddy Shaw, Environmental Supervisor, Amoco Production Company, 200 Amoco Court, Farmington, NM 87401
David G. Boyer, Environmental Bureau Chief, NM OIl Conservation Division, P. O. Box 2088, Santa Fe, NM 87504
Dave Tompko, NMED Farmington Office
Glenn Saums, NMED Surface Water Section

Amoco Production Company

San Juan Operations Center
200 Amoco Court
Farmington, NM 87401
(505) 326-9260

May 20, 1991

NMOCD
Santa Fe, NM

Attn: Dave Boyer

File: BDS-15-986

Soil Composting - Post Testing

Per our phone conversation on May 16, 1991, Amoco offers the following test procedures for the subject composting at our GCU #216 well location:

1. Tests will not be conducted during the composting period except for temperature (120^{o}-140^{o}F)

2. Post testing will consist of the following
   - A. TCLP - composite sample from six different locations
   - B. Total Petroleum Hydrocarbon - 100 ppm total limit
     - 1.) BTEX - 50 ppm limit
     - 2.) Benzene - 10 ppm limit
   - C. pH
   - D. Total Metals
   - E. Soil - SAR, etc.
     This testing will be conducted based on consultation with soil experts (NAPI)

Any questions or concerns are welcomed.

Thanks,

Buddy Shaw

Buddy Shaw
Environmental Coordinator

BDS/slb

TEXAS A&M UNIVERSITY
DEPARTMENT OF CHEMICAL ENGINEERING
COLLEGE STATION, TEXAS 77843-3122

TEACHING
RESEARCH · EXTENSION

TELEPHONE
409-845-3361
FAX
409-845-6446

April 12, 1991

Mr. B. E. Shaw
Environmental Coordinator
Amoco Oil Corporation

FAX 505-326-9262

Dear Mr. Shaw,

Mr. Jerry Finney has requested that I provide you with a letter summarizing some of my observations on the composting test that Mr. Finney conducted in Reno, Nevada earlier this year. I am happy to comply.

Over the three week composting process Mr. Finney was successful in completely biodegrading and composting both glossy magazines and paperback books. Moreover, these books and magazines were fed to the composting pile in very large pieces (approximately two to three pieces per book or magazine). The composting process would certainly be more effective and rapid if these paper materials were ground up prior to composting, as I understand Mr. Finney plans to do.

In the test I observed there was no leachate, that is, no free water standing in or around the compost pile. The presence of leachate would in fact indicate a very poorly managed composting operation since composting proceeds best in a moisture range of about 55-70% (dry basis), i.e., when there is no free water. I also understand there is also some concern about spontaneous combustion of composting materials. A well-managed compost pile will operate at about 130-140 F, about 300 degrees below the ignition temperature of paper. I don't think spontaneous combustion should concern you.

One other item, the composting process undoubtedly breaks down both aliphatic and aromatic compounds such as those found in petroleum. The same kind of microbes that "eat" oil slicks also are present during composting. In the Reno test, approximately 90% reduction of the initial

total petroleum hydrocarbons was achieved in about three weeks. Because of the conditions under which this test was conducted, I am certain Mr. Finney can achieve both a more rapid and more complete hydrocarbon breakdown when he is able to better control the conditions.

Although Mr. Finney has no academic qualifications, he understands the theory of composting very well and obviously is an expert practioner of the art. While his language is sometimes unorthodox, he knows what he is doing in composting. I spent several days with him and found him to be an exceedingly creative and original thinker.

I hope this letter provides the information you need. Please call me if I can be of further assistance.

Sincerly yours,

Bruce E. Dale
Professor of Chemical Engineering
Professor of Agricultural Engineering
Director, Engineering Biosciences Research Center

5741

Facsimile Transmission

Addressee's Telecopier Phone	Date	Page
TTY	4-12-91	1 of 7

To: David Boyer	Company NMOCD	Location Santa Fe	Mail Code/Room
From Buddy Shaw	Company Amoco	Location Farmington	Mail Code/Room

Initiated By	Department/Region	Charge (Cost Center Code)	Approved By

Typed By	Ext	Mail Code/Room	☐ Call Sender for Pickup of Originals ☐ Call _____ for Pickup at Receiving Location

RUSH

Thanks,
Buddy

Form 1009 Oct-90

PHOENIX AZ 85036
(602) 437-2659 • (602) 437-8706 FAX

LABORATORY REPORT

CLIENT CITY OF FARMINGTON
ENVIRONMENTAL DIVISION
ATTN TERRY MOUNT
800 MUNICIPAL DRIVE
FARMINGTON, NM 87041

SAMPLE NO. : 9100739
INVOICE NO.: 22110191
REPORT DATE: 01-30-91
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : SLUDGE STOCKPILE
SAMPLE TYPE .....: DRY SLUDGE
SAMPLED BY .....: COF/T. MOUNT
SUBMITTED BY ....: COF/T. MOUNT
SAMPLE SOURCE ...: --

AUTHORIZED BY : TERRY MOUNT
CLIENT P.O. : --
SAMPLE DATE ...: 01-21-91
SUBMITTAL DATE : 01-23-91
EXTRACTION DATE: 01-28-91

8 TCLP Metals

D A T A T A B L E

Parameter	Result	Unit	Detection Limit	Date
Arsenic (TCLP)	0.07	mg/L	0.05	01-29-91
Barium (TCLP)	0.31	mg/L	0.10	01-29-91
Cadmium (TCLP)	<0.05	mg/L	0.05	01-29-91
Chromium (TCLP)	<0.05	mg/L	0.05	01-29-91
Lead (TCLP)	<0.10	mg/L	0.10	01-29-91
Mercury (TCLP)	<0.01	mg/L	0.01	01-29-91
Selenium (TCLP)	<0.05	mg/L	0.05	01-29-91
Silver (TCLP)	<0.05	mg/L	0.05	01-29-91

(1) Copy to Client

WESTERN TECHNOLOGIES INC.
3737 East Broadway Road
P.O. Box 21387
Phoenix, Arizona 85036
(602) 437-3737

LABORATORY REPORT

CLIENT CITY OF FARMINGTON
ENVIRONMENTAL LAB
ATTN TERRY MOUNT
800 MUNICIPAL DRIVE
FARMINGTON, NM 87401

SAMPLE NO. : 9007747
INVOICE NO.: 72101060
DATE : 10-16-90
REVIEWED BY:
PAGE : 1 OF 2

CLIENT SAMPLE ID : 1835
SAMPLE TYPE .....: SLUDGE
SAMPLE SOURCE ...: --
SAMPLED BY .....: COF/J. BIRD
SUBMITTED BY ....: COF/J. BIRD

AUTHORIZED BY: COF/T. MOUNT
CLIENT P.O. : --
ANALYZED ON .: 10-15-90
SAMPLE DATE .: 10-03-90
SUBMITTED ON : 10-05-90

REMARKS -

8240 - GC/MS Volatile Organics

****
* DATA TABLE *
****

PARAMETER	RESULT	UNIT
Chloromethane	<50.	ug/Kg
Bromomethane	<50.	ug/Kg
Vinyl Chloride	<50.	ug/Kg
Chloroethane	<50.	ug/Kg
Methylene Chloride	<25.	ug/Kg
Acetone	<500.	ug/Kg
Carbon Disulfide	<25.	ug/Kg
1,1-Dichloroethene	<25.	ug/Kg
1,1-Dichloroethane	<25.	ug/Kg
trans-1,2-Dichloroethene	<25.	ug/Kg
Chloroform	<25.	ug/Kg
1,2-Dichloroethane	<25.	ug/Kg
2-Butanone	<500.	ug/Kg
1,1,1-Trichloroethane	<25.	ug/Kg
Carbon Tetrachloride	<25.	ug/Kg
Vinyl Acetate	<250.	ug/Kg
Bromodichloromethane	<25.	ug/Kg
1,1,2,2-Tetrachloroethane	<25.	ug/Kg
1,2-Dichloropropane	<25.	ug/Kg
trans-1,3-Dichloropropene	<25.	ug/Kg
Trichloroethene	<25.	ug/Kg
Dibromochloromethane	<25.	ug/Kg
1,1,2-Trichloroethane	<25.	ug/Kg
Benzene	<25.	ug/Kg
cis-1,3-Dichloropropene	<25.	ug/Kg
2-Chloroethyl Vinyl Ether	<25.	ug/Kg
Bromoform	<25.	ug/Kg

(1) Copy to Client

3737 EAST BROADWAY ROAD
PHOENIX AZ 85036
(602) 437-2659 • (602) 437-8706 FAX

LABORATORY REPORT

CLIENT CITY OF FARMINGTON
ENVIRONMENTAL DIVISION
ATTN TERRY MOUNT
800 MUNICIPAL DRIVE
FARMINGTON, NM 87041

SAMPLE NO. : 9100740
INVOICE NO.: 22110191
REPORT DATE: 01-30-91
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : SLUDGE - DRY BED #3
SAMPLE TYPE .....: DRY SLUDGE
SAMPLED BY .....: COF/T. MOUNT
SUBMITTED BY ....: COF/T. MOUNT
SAMPLE SOURCE ...: --

AUTHORIZED BY : TERRY MOUNT
CLIENT P.O. : --
SAMPLE DATE ...: 01-21-91
SUBMITTAL DATE : 01-23-91
EXTRACTION DATE: 01-28-91

8 TCLP Metals

D A T A T A B L E

Parameter	Result	Unit	Detection Limit	Date
Arsenic (TCLP)	0.06	mg/L	0.05	01-29-91
Barium (TCLP)	<0.10	mg/L	0.10	01-29-91
Cadmium (TCLP)	<0.05	mg/L	0.05	01-29-91
Chromium (TCLP)	<0.05	mg/L	0.05	01-29-91
Lead (TCLP)	<0.10	mg/L	0.10	01-29-91
Mercury (TCLP)	<0.01	mg/L	0.01	01-29-91
Selenium (TCLP)	<0.05	mg/L	0.05	01-29-91
Silver (TCLP)	<0.05	mg/L	0.05	01-29-91

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Broadway Road
P.O. Box 21387
Phoenix, Arizona 85036
(602) 437-3737

LABORATORY REPORT

CLIENT CITY OF FARMINGTON
ENVIRONMENTAL LAB
ATTN TERRY MOUNT
800 MUNICIPAL DRIVE
FARMINGTON, NM 87401

SAMPLE NO. : 9007747
INVOICE NO.: 72101060
DATE : 10-16-90
REVIEWED BY: JMC
PAGE : 2 OF 2

****
* DATA TABLE (Cont.) *
****

PARAMETER	RESULT	UNIT
2-Hexanone	<250.	ug/Kg
4-Methyl-2-pentanone	<250.	ug/Kg
Tetrachloroethene	<25.	ug/Kg
Toluene	<25.	ug/Kg
Chlorobenzene	<25.	ug/Kg
Ethyl Benzene	<25.	ug/Kg
Styrene	<25.	ug/Kg
Total Xylenes	<25.	ug/Kg

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Phoenix, Arizona 85036
(602) 437-3737

LABORATORY REPORT

CLIENT CITY OF FARMINGTON
ENVIRONMENTAL LAB
ATTN TERRY MOUNT
800 MUNICIPAL DRIVE
FARMINGTON, NM 87401

SAMPLE NO. : 9007747
INVOICE NO.: 72101060
DATE : 10-16-90
REVIEWED BY:
PAGE : 1 OF 2

CLIENT SAMPLE ID : 1835
SAMPLE TYPE .....: SLUDGE
SAMPLE SOURCE ...: --
SAMPLED BY .....: COF/J. BIRD
SUBMITTED BY ....: COF/J. BIRD

AUTHORIZED BY: COF/T. MOUNT
CLIENT P.O. : --
ANALYZED ON .: 10-10-90
SAMPLE DATE .: 10-03-90
SUBMITTED ON : 10-05-90

REMARKS -

8270 - GC/MS Semivolatile Organics

DATA TABLE

PARAMETER	RESULT	UNIT
Phenol	<33.	ug/Kg
bis(2-Chloroethyl) ether	<33.	ug/Kg
2-Chlorophenol	<33.	ug/Kg
1,3-Dichlorobenzene	<33.	ug/Kg
1,4-Dichlorobenzene	<33.	ug/Kg
Benzyl Alcohol	<67.	ug/Kg
1,2-Dichlorobenzene	<33.	ug/Kg
2-Methylphenol	<33.	ug/Kg
bis(2-Chloroisopropyl) ether	<33.	ug/Kg
4-Methylphenol	<33.	ug/Kg
N-Nitroso-Di-N-propylamine	<33.	ug/Kg
Hexachloroethane	<33.	ug/Kg
Nitrobenzene	<33.	ug/Kg
Isophorone	<33.	ug/Kg
2-Nitrophenol	<33.	ug/Kg
2,4-Dimethylphenol	<33.	ug/Kg
Benzoic Acid	<167.	ug/Kg
bis(2-Chloroethoxy) methane	<33.	ug/Kg
2,4-Dichlorophenol	<33.	ug/Kg
1,2,4-Trichlorobenzene	<33.	ug/Kg
Napthalene	<33.	ug/Kg
4-Chloroaniline	<67.	ug/Kg
Hexachlorobutadiene	<33.	ug/Kg
4-Chloro-3-methylphenol	<67.	ug/Kg
2-Methylnaphthalene	<33.	ug/Kg
Hexachlorocyclopentadiene	<33.	ug/Kg
2,4,6-Trichlorophenol	<33.	ug/Kg

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TECHNOLOGIES INC.
Broadway Road
P.O. Box 21387
Phoenix, Arizona 85036
(602) 437-3737

LABORATORY REPORT

CLIENT CITY OF FARMINGTON
ENVIRONMENTAL LAB
ATTN TERRY MOUNT
800 MUNICIPAL DRIVE
FARMINGTON, NM 87401

SAMPLE NO. : 9007747
INVOICE NO.: 72101060
DATE : 10-16-90
REVIEWED BY:
PAGE : 2 OF 2

****
* DATA TABLE (Cont.) *
****

PARAMETER	RESULT	UNIT
2,4,5-Trichlorophenol	<33.	ug/Kg
2-Chloronaphthalene	<33.	ug/Kg
2-Nitroaniline	<167.	ug/Kg
Dimethyl phthalate	<33.	ug/Kg
Acenaphthylene	<33.	ug/Kg
3-Nitroaniline	<167.	ug/Kg
Acenaphthene	<33.	ug/Kg
2,4-Dinitrophenol	<167.	ug/Kg
4-Nitrophenol	<167.	ug/Kg
Dibenzofuran	<33.	ug/Kg
2,4-Dinitrotoluene	<33.	ug/Kg
2,6-Dinitrotoluene	<33.	ug/Kg
Diethylphthalate	<33.	ug/Kg
4-Chlorophenyl phenyl ether	<33.	ug/Kg
Fluorene	<33.	ug/Kg
4-Nitroaniline	<167.	ug/Kg
4,6-Dinitro-2-methylphenol	<167.	ug/Kg
N-Nitrosodiphenylamine	<33.	ug/Kg
4-Bromophenyl phenyl ether	<33.	ug/Kg
Hexachlorobenzene	<33.	ug/Kg
Pentachlorophenol	<167.	ug/Kg
Phenanthrene	<33.	ug/Kg
Anthracene	<33.	ug/Kg
Di-n-butylphthalate	<33.	ug/Kg
Fluoranthene	<33.	ug/Kg
Pyrene	<33.	ug/Kg
Butyl benzyl phthalate	<33.	ug/Kg
3,3'-Dichlorobenzidine	<67.	ug/Kg
Benzo(a)anthracene	<33.	ug/Kg
bis(2-ethylhexyl)phthalate	<33.	ug/Kg
Chrysene	<33.	ug/Kg
Di-n-octyl phthalate	<33.	ug/Kg
Benzo(b)fluoranthene	<33.	ug/Kg
Benzo(k)fluoranthene	<33.	ug/Kg
Benzo(a)pyrene	<33.	ug/Kg
Indeno(1,2,3-c,d)pyrene	<33.	ug/Kg
Dibenzo(a,h)anthracene	<33.	ug/Kg
Benzo(g,h,i)perylene	<33.	ug/Kg

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827-5741

Facsimile Transmission

Addressee's Telecopier Phone	Date	Page
TTY	4-9-91	1 of 4

To:	Company	Location	Mail Code/Room
David Boyer	EID	Santa Fe	
From:	**Company**	**Location**	**Mail Code/Room**
Buddy Shaw	Amoco	Farmington	
Initiated By	**Department/Region**	**Charge (Cost Center Code)**	**Approved By**
Typed By	**Ext.**	**Mail Code/Room**	☐ Call Sender for Pickup of Originals ☐ Call _____ for Pickup at Receiving Location

RUSH

Composting Proposal

Thanks,
Buddy

FAX No. 326-9262

Telephone No. 326-9219

Analyses is Wastewater, not Sludge
How water applied for moisture?
Liner?

Form 1009 Oct-90

Composting of Oily Soil

Lease - Gallegos Canyon Unit No. 102E
(NE/NE Section 13-29N-13W)

Landowner - BLM (approval given 4/5/91) Don Ellsworth

Operator - Amoco Production Company
Buddy Shaw 326-9219

Treatment - Oily soil is being removed from the Hutton Gas Com No. 1. (SE/NE Section 6-29N-12W)

Additives & Treating Procedure - attached listing

Soil will be composted on the surface and a berm will be constructed to prevent run-off.

Sampling will be conducted by Amoco each week. A final sample will be taken at project completion which should be three to six weeks.

Groundwater depth is estimated to be 225'+.

Sampling of soils.
Composite samples?
Analysis parameters & methods?

How is this estimated?

This is a summary of the materials and procedures I will use on the Amoco location to compost the oily dirt.

The materials I will use are as follows:

1. Manure from San Juan Downs Racetrack. This manure is approximately 50% straw and wood chips and 50% manure with the moisture content approximately 35% by weight. The blend will contain approximately 25 to 30% of this manure.

2. Sludge from the sewer plant in Bloomfield ~~or~~ Farmington. This sludge is di~~gested and con~~tains approximately ~~4% solids~~. I will supply ~~a~~ lab analysis from the city lab it originated from. ~~The analysis will show the~~ metal levels are in compliance with WQCC regs. The sludge will comprise approximately 15 to 20% of the blend. *Attached*

3. Waste paper - Computer, news and glossy paper. This will not be ground and it will be controlled so it can't blow away on location. This paper will comprise approximately 10% by weight of the blend.

4. Oily Dirt - This will be defined by Amoco. The mixture will contain approximately 40 to 50% of the oily dirt.

The mixture will be piled in a Windrow that is approximately 6' to 8' high by 10' wide on the bottom. The moisture content will be maintained approximately 60 to 70% to eliminate any leachate. The process will require approximately 3 to 5 weeks at the most and the final product will contain less than 100 ppm hydrocarbon content and the vapors will be contained with the compost. The hydrocarbons are consumed by the bacteria. The end product will resemble potting soil and will be sold as top soil. The metals are bound up with the organics and have passed a TCLP test. The pile will be turned with a one yard loader two times a week at the most. The temperature will be maintained approximately 120° to 130° for two weeks and allowed to cool after that. The PH will be approximately 9 and oxygen content will be maintained at least 1% to keep the pile aerobic. The final product will have a moisture content of approximately 25 to 30%. The total pile will be approximately ~~150~~ *200* cu. yds.

If you need further information, please let me know.

Jerry Finney

100 ppm TPH
50 ppm BTEX
10 ppm Benzene
⇒ and levels that apply.
These levels are action levels for remediation (non leachable levels). Not clean fill levels.

Will fluid be added to maintain moisture content? If so, how will system be operated?
What TCLP test?
Farmington sludge
TCLP

CLIENT CITY OF FARMINGTON
ENVIRONMENTAL LAB
ATTN TERRY MOUNT
800 MUNICIPAL DRIVE
FARMINGTON, NM 87401

[illegible]
[illegible]
DATE : 12/11/90
REVIEWED BY: [illegible]
PAGE : 1 OF 1

CLIENT SAMPLE ID : 0900 TO 800
SAMPLE TYPE .....: WASTEWATER
SAMPLE SOURCE ...: --
SAMPLED BY .....: COF/PERSONNEL
SUBMITTED BY ....: COF/T. MOUNT

AUTHORIZED BY: COF/T. MOUNT
CLIENT P.O. : --

SAMPLE DATE .: --
SUBMITTED ON : 11-28-90

D A T A T A B L E

PARAMETER	RESULT	UNIT	TEST DATE
Total Antimony	<0.005	mg/L	12-05-90
Total Arsenic	<0.001	mg/L	12-05-90
Total Beryllium	<0.0003	mg/L	12-04-90
Total Cadmium	<0.001	mg/L	12-04-90
Total Chromium	<0.005	mg/L	12-10-90
Total Copper	0.030	mg/L	12-10-90
Total Iron	0.420	mg/L	12-10-90
Total Mercury	<0.001	mg/L	12-06-90
[illegible]l Nickel	<0.050	mg/L	12-11-90
[illegible]al Selenium	<0.050	mg/L	11-30-90
[illegible]otal Silver	<0.002	mg/L	12-10-90
Total Thallium	<0.005	mg/L	12-04-90
Total Zinc	0.064	mg/L	12-10-90

(1) Copy to Client

Amoco

Inter-Mountain Laboratories, Inc.

2506 West Main Street Farmington, New Mexico 87401 Tel. (505) 326-4737

Sample id	Lab #	TPH mg/Kg	Total BTEX	TKN %	Density lbs/cu ft	Moisture %	pH	Ash %	TOC %	Ammonia %	P_2O_5 %	Potassium %
1	6670	13,400	5,599									
1	6704	10,300	1,450									
1	6748	17,000										
1	6851	8,630		0.41		8.5						
1	6968			0.23		20.7						
1-A	6706	10,500	263									
1-AA	6903			5.66		4.5					15.73	0.12
1-B S	6712	265000	1596000	7.13		2.3						
1-B L	6712	91,800	2404000									
1-BB	6944			0.14								0.08
1-C	6729	25,100	258	22.50		0.2						
1-CC	6959			23.70								
1-D	6730	145000	659500	5.49		1.1						
1-DD	6960			10.30							25.06	0.13
1-E	6747									22.3		
1-E	6751	63,700		10.80								
1-EE	6961			5.40							9.35	

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Sample id	Lab #	TPH mg/Kg	Total BTEX	TKN %	Density lbs/cu ft	Moisture %	pH	Ash %	TOC %	Ammonia %	P_2O_5 %	Potassium %
1-F	6752	15,900										
1-FF	6962			10.30								0.10
1-G	6753	35,300										
1-I	6769									21.8		0.21
1-J	6770	4,930		12.40			7.4					
1-JJ	7083			31.20		5.7			99.1			
1-K	6774									14.61		7.01
1-L	6775	128000		5.52						3.40		
1-M	6797				47.8	14.6						
1-N	6850	7,710		0.61		29.6						
1-O	6813	4,730				8.3						
1-P	6814	4,220				15.6						
1-Q	6815	1,470				13.3						
1-R	6820	4,800		47.23		9.7						
1-S	6816	17,400		11.61		10.9						2.30
1-T	6817			6.91		10.3				0.11	<0.01	4.68
1-U	6818			27.04		18.5				0.02	0.02	0.15

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Sample id	Lab #	TPH mg/Kg	Total BTEX	TKN %	Density lbs/cu ft	Moisture %	pH	Ash %	TOC %	Ammonia %	P_2O_5 %	Potassium %
1-V	6819			9.78		26.4				1.69	6.42	0.23
1-X	6826	41,340		7.26		38.3						
1-Y	6894			6.20								1.06
1-Z	6895			6.53								2.75
1-In	7131	710					7.4					
1-Out	7132	740					7.3					
2	6671	10,400	3,124									
2	6705	7,580	1,084									
3	6680	11,200	621									
3	6749	7,950										
3	6852	3,640		0.38		8.8						
3-In	7133	1,160					7.5					
3-Out	7134	178					7.4					
4	6681	948	ND									
4	6710	1,490	ND									
4	6771	89,600										
5	6682	4,470	808									

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Sample id	Lab #	TPH mg/Kg	Total BTEX	TKN %	Density lbs/cu ft	Moisture %	pH	Ash %	TOC %	Ammonia %	P_2O_5 %	Potassium %
5	6711	7,910	794									
5	7056			0.11		7.5						
5-In	7135	500					7.4					
5-Out	7136	258					7.2					
6	6822	24,281			119.0	11.7						
6	7095	910				14.8						
6	7174	1,430										
6-A	6827			0.66	67.1	9.2	7.2	25.45				
6-B	6828	16,303		0.05	138.8	12.1	7.1	6.56	5.99			
6-C	6829			0.11	2.3	1.9	6.1	80.20				
6-E	6892			0.15		31.9						
6-F	6943			38.00								
6-G	6963					27.2						
Cow	6974	24										
Paper	6975	141										
Crdbrd	6976	307										
WoodCh	6977	258										

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Sample id	Lab #	TPH mg/Kg	Total BTEX	TKN %	Density lbs/cu ft	Moisture %	pH	Ash %	TOC %	Ammonia %	P_2O_5 %	Potassium %
Sludge	6978	2,900										
Horse	6979	130										

****NOTES****

This summary is based upon September 19, 1991 available results for Amoco at GCU-250.

The values for the Ash and Total Organic Carbon (TOC) represent the percent material lost during heating; 850 degrees Celsius and 600 degrees Celsius respectively.

Sample 1-B was divided into a solid (S) and a liquid (L) portion and analyzed separately.

The BTEX results for each component was added together resulting in a single number in ug/Kg. For the individual component concentrations consult the reports for those samples.

Cow = Cow Manure
Crdbrd = Cardboard
Wood Ch = Wood Chips
Horse = Horse Manure

Using the percentages of raw components that were used in preparing the compost a blank value was calculated by multiplying the percentage of the component times the TPH value of the pure component and adding these values together. The result is a raw materials TPH backout value of 969 mg/Kg that can be subtracted from the TPH compost values on sample identifications 1-In, 1-Out, 3-In, 3-Out, 5-In, & 5-Out.

Feel free to contact me with any questions.

Tony Tristano

Tony Tristano - Senior Analytical Chemist