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GENERAL CORRESPONDENCE

YEAR(S):
1987 - 1986

NEW MEXICO
HEALTH AND ENVIRONMENT
DEPARTMENT

Post Office Box 968
Santa Fe, New Mexico 87504-0968

GARREY CARRUTHERS
Governor

LARRY GORDON
Secretary

CARLA L. MUTH
Deputy Secretary

May 29, 1987

Mr. David Boyer
Chief, Environmental Bureau
Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504-2088

Dear Mr. Boyer:

In September of 1986, the EID was notified of an explosivity problem at 716 S. Miller Avenue in Farmington. This site is occupied by Graves Oil and Butane, which has historically had soil contamination problems due to sloppy handling practices with fuel.

A gas sample taken by the IT Corporation (consultants for Graves) showed methane, ethane, and propane, but an absence of mercaptan, indicating that the gas present in an excavation trench was actually well-head gas that had not yet been refined. However, the ground-water sample taken from the trench showed evidence of contamination from gasoline. It appears likely that well-head gas was a significant or primary contributor to the ground water contamination at the site.

Natural gas has been produced in this area for many years. Due to the proximity of natural gas wells to this facility (the nearest gas well is located approximately two blocks away) it has been hypothesized that an improperly abandoned gas well could be responsible for the observed explosivity and ground-water contamination problems. For this reason EID placed its ground-water contamination investigation on hold until the results of OCD's work was known.

This letter is to request all information regarding the extent and findings of OCD's investigation, and to request that OCD use its authority over oil and gas production to eliminate natural gas contamination at this location. The Graves site is located approximately two thousand (2000) feet from the Animas River; the depth to water is ten (10) feet. A diversion ditch which feeds a water supply system is located less than one (1) mile downstream.

Please contact Mr. Peter Maggiore of the Groundwater/Hazardous Bureau with the results of OCD's investigation, and indicate what steps OCD plans to take to remediate this problem.

Sincerely

Richard Mitzelfelt, Chief, Groundwater/Hazardous Waste Bureau

cc: Michael Burkhart, Director, EID
Karl Souder, Manager, Underground Storage Tank Program
Gini Nelson, HED Office of General Counsel
Dave Tomko, EID Farmington Office
Tito Madrid, Manager, EID District I
Marcy Leavitt, WRS II, Underground Storage Tank Program

RM/PM/pm

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

GARREY CARRUTHERS
GOVERNOR

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178

M-E-M-O-R-A-N-D-U-M (3-87-16)

TO: DAVE BOYER

FROM: Frank T. Chavez, Supervisor District 3 F.T.C.

SUBJECT: Graves Oil and Butane Soil Contamination

DATE: June 11, 1987

We have performed an investigation of the referenced problem as follows:

1. We have tested all wells within one mile of the site.

2. We have researched all available well records and other sources of information.

3. We have interviewed previous land owners.

4. We have given Graves technical assistance in taking gas samples.

5. We have requested and received gas analysis assistance from the U.S.G.S. in Denver.

We have concluded that the soil contamination is not related to activities under our jurisdiction for the following reasons:

1. All the wells within one mile of the contamination have passed a bradenhead test.

2. The concentration of gas at a distance from a casing failure is atypical and highly unlikely.

3. There is no record of a well in proximity to the contamination.

4. If there was an old undocumented well, it would have to be at the site and previous landowners could not recall an old well during our interviews.

5. An old well would have been drilled to the Fruitland or Pictured Cliffs formation and in this area these formation do not contain the butane and propane found in the sample.

Until some information indicates a well exists at the site, we can take no further action.

dj

STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

June 15, 1987

Mr. Richard Mitzelfelt
Chief, Groundwater/Hazardous Waste Bureau
New Mexico Environmental Improvement Division
P.O. Box 968
Santa Fe, NM 87504-0968

Dear Mr. Mitzelfelt:

In response to your letter of May 29, I have enclosed a copy of a memorandum from the OCD Aztec District Office Supervisor detailing the investigation performed by that office on the Graves contamination case. Also enclosed is a copy of the gas analysis performed by Global Geochemistry Corporation.

The OCD's Aztec office concluded that the contamination was not related to an existing well, or an abandoned well that could be located. There have been cases in the Farmington area of gas seepage where an abandoned well or other vertical conduit (e.g. water well) could not be found. These cases may be due to escape of gas from geologic fractures with no surface expression. The OCD can not assist in these instances.

The Oil Conservation Division has spent numerous hours on this and other investigations and the expertise of the district personnel in locating old abandoned wells is highly commendable. Since 1976, more than 40 abandoned wells in the district have been located and plugged, many of those wells located within the Farmington city limits. The OCD obviously uses its authority over oil and gas production to eliminate natural gas contamination at sites where wells have been located.

The OCD plans no further action on this matter until there is some indication that an abandoned well exists at or near the site.

Sincerely,

David G. Boyer
Chief, Environmental Bureau

xc: W. J. LeMay, Director, OCD
Frank Chavez, OCD Aztec District Office
Peter Maggiore, EID Groundwater/Hazardous Bureau
David Tomko, EID Farmington Office
Gini Nelson, HED Office of General Counsel

Enc.

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GLOBAL
*GEO*CHEMISTRY
CORPORATION

TELEX: 194449 LSA ATTN: GGC

6919 ETON AVENUE • CANOGA PARK • CALIFORNIA 91303-2194 (818) 992-4103

September 24, 1986

W.O. #3404

Mr. Bill May
Graves Oil and Butane Company
P.O. Box 2077
Farmington, NM 87499

Dear Mr. May,

As we discussed over the phone, the analysis of your gas samples yielded the following results:

Composition (% by volume)

Sample	C_1	C_2	C_3	i-C_4	n-C_4	i-C_5	n-C_5
First Cylinder	0.11	0.020	0.024	0.002	0.007	0.007	0.005
Second Cylinder	0.018	0.044	0.721	0.005	0.011	0.019	0.019

Sample	N_2	CO_2	Ar	O_2	He	H_2
First Cylinder	80	0.015	1.0	19	.004	ND
Second Cylinder	76	0.22	0.9	*	.006	T

* Not quantified due to peak integration error. Both cylinders contained mostly air.
ND = Not detected, T = Detected in trace amount.

	$\delta^{13}C_{PDB}$
*C_1	-38.5, -39.5
C_2	-34.0
C_3	-29.2, -30.1

*From first cylinder

These results, as we discussed with Dr. Jenden, are consistent with what one would expect from a gas associated with oil or possibly condensate. The extreme wetness of the gas (37% C_{2+}

hydrocarbons) suggests chemical fractionation possibly due to the volitalization or oxidation of methane.

Also enclosed is the invoice for this work. If you have any questions or comments, please do not hesitate to contact me.

Sincerely,

David E Meredith

David E. Meredith
Geochemistry Lab Manager

DEM/ma

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