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June 28, 1994

John Amaturro
Dutchess Auto Body
36 East Main Street
Pawling, NY 12564

Re: Summary Letter-Report Regarding Environmental Conditions on the Reilly's Garage Property Located on Main Street in the Village of Pawling, Dutchess County, New York
Our File: RP9433.10

Dear Mr Amaturro:

The expressed purpose of this investigation (and summary Letter-Report) is to summarize readily available information on potential or actual contamination on the property identified above ("subject property") and to provide, to the extent possible, estimates of additional investigatory work and/or remedial services considered by this office to be warranted based on known conditions. The following work was performed by this office:

- review of readily available NYSDEC petroleum spills and tank registration databases and interviews with relevant NYSDEC personnel;
- review of Sanborn Fire Insurance Company Maps dated 1924 and 1933;
- review of field map and laboratory data provided by the Client; and
- physical inspection of the property and interview with the Client;

This work is limited in scope to those tasks specified above and therefore any conclusions drawn from this work may be limited. Any assumptions made by this office are clearly stated in this Letter-Report.

DESCRIPTION OF SUBJECT PROPERTY

The subject property is a vacant, inactive gasoline station consisting of a single, two-story structure. Overgrown lawn areas are located to the east and south of the building, with a pump island that appears to have formerly contained two pumps located to the north of the building. A stream borders the site to the east and south. Commercial buildings are located to the north and west of the subject property. The subject property is served by central water and sewer.

Sanborn Fire Insurance Maps dated 1924 and 1933 were viewed in an attempt to gather additional historical information on this site, particularly as regards petroleum bulk storage on the property (copies of the historic maps with the subject property outlined are included as an Attachment to this Letter-Report). On both historic maps, three gasoline tanks are shown on the subject property; two of which are in locations different from the locations of known tanks.

On March 6, 1991 a report of a release of petroleum was filed with the NYSDEC (spill #9012530). The actual release date was listed as July 1, 1989. According to a representative of NYSDEC, there was a report of abandoned tanks and drums on the site. No tanks were removed or contaminated soil was excavated at this time, according to NYSDEC.

DISCUSSION OF ENVIRONMENTAL CONDITION

A series of subsurface borings were located on the subject property on June 1, 1994 to document soil conditions. The borings were located in the general vicinity of the known underground gasoline and waste oil tanks.

Soil samples were collected from various borings and submitted to Envirotest Labs, Inc., a New York State Department of Health (NYSDOH) certified laboratory (ELAP #10142) for analysis. Sample collection methodologies are not known and exact depths cannot be determined because samples were collected from auger cuttings and not from a spoon. No information was available on field decontamination procedures. No field screening occurred and no log notes from the driller indicating soil characteristics were prepared.

Data from the soil samples collected on this site are summarized in Table 1, below. Concentrations of detected compounds are compared to remediation guideline levels ("action levels") currently used by NYSDEC.

Table 1: Summary Table of Soil Samples From Reilly Garage Site
[All results are shown in parts per billion]

	SAMPLE LOCATIONS								
Analyte	B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8	Action Levels[3]
Benzene	ND[2]	ND	ND	ND	ND	ND	ND	ND	14
Ethyl Benzene	11,000	22,000	1.4	890	23,000	91	11,000	ND	100
Toluene	590	34,000	ND	ND	10,000	ND	1100	ND	100
Xylenes	37,000	310,000	2.1	1500	710,000	330	110,00	ND	100
MTBE	ND	ND	ND	ND	ND	ND	ND	ND	1000

Notes: 1. Sample locations are provided on the attached Selected Site Features Map which is based on an diagram provided by the Client.
2. "ND" = Not Detected at the minimum detection limit (MDL) for that analysis. MDLs vary by analysis.
3. Source: NYSDEC STARS Memo #1

Based on the laboratory results forwarded to this office, soil in the immediate vicinity of the on-site gasoline tank is significantly contaminated with toluene, ethyl benzene and xylenes. These three compounds are primary constituents of gasoline, suggesting their presence in the soil is a result of a leaking tank. Samples B-1, B-2, B-5 and B-7 showed total xylenes concentrations exceeding 100,000 parts per billion (ppb). Contamination was less extensive at borings B-6 and B-3, which were located further away from the on-site gasoline tank. Existing data indicate that contamination is present at levels warranting immediate action to minimize any on-going migration of contaminants.

No compounds were detected in the vicinity of the waste oil tank. However, waste oil will not contain significant levels of benzene, toluene, xylenes or other volatile compounds; therefore no determination regarding the presence or absence of petroleum contamination in the vicinity of this tank can be made at this time.

The lateral extent of soil containing total hydrocarbon concentrations exceeding 100,000 ppb is difficult to determine because of the lack of any borings to the west of B-2 and to the south of B-7. However, a preliminary estimate based on the existing data is that an area between 2500 and 3500 square feet is likely to have soil containing greater than 100,000 ppb of total hydrocarbons.

The vertical extent of contamination cannot be determined given the existing data. Although data from one boring would indicate that contamination is less at the 3 foot depth than at the 10 foot depth, this boring is not located in the most heavily contaminated soil and therefore is of extremely limited value. Further, no samples were collected at an approximate depth greater than 10 feet; therefore, the presence or absence of contamination at greater depths cannot be determined.

Finally, no comments can be made regarding the presence or absence of groundwater contamination. No monitoring wells have been installed and no groundwater samples have been collected from this site. However, the elevated levels of hydrocarbons at the 10 foot depth, a depth likely to be close to groundwater depth, and the documented mobility of those compounds identified on this site increases the probability of groundwater contamination on this site.

CONCLUSIONS AND RECOMMENDATIONS

Based on the services performed by this office, the following conclusions and recommendations are made:

1. Petroleum contamination is present on this site in the vicinity of the known on-site gasoline tank. The compounds detected in soil samples imply that contamination is from a release of gasoline. The absence of benzene and the absence of MTBE imply that the release occurred several (more than 10) years ago.

   The presence of documented petroleum contamination is reportable to the NYSDEC. State regulations (6 NYCRR Part 613) require that evidence of a release be reported to NYSDEC.

2. The concentrations of hydrocarbons in on-site soils exceed NYSDEC action levels and therefore remedial actions are warranted. The presence of contaminated soil at depths approaching groundwater levels increases the likelihood of groundwater contamination.

3. The lateral extent of soil contamination is likely to be between 2500 and 3500 square feet, based on the limited data provided. If the vertical extent of contamination averages 10 feet in depth over this area, then the total volume of contaminated soil would be between 900 and 1300 cubic yards. The volume of soil likely to be contaminated on this site makes in situ remedial options more economically feasible. Soil venting may be the most appropriate remedial actions for this site.

4. Historic maps indicate the possible existence of two additional underground gasoline tanks in the northeastern portion of the subject property.

In light of the identified actual environmental conditions on this site, the following recommendations for future actions are made:

- **The NYSDEC should be notified immediately of the presence of petroleum contamination on the subject property. The NYSDEC should be fully informed on known environmental conditions on the subject property, and the Client should coordinate with NYSDEC to determine the scope of an appropriate subsurface investigation.**

- **A comprehensive subsurface investigation should be conducted on the subject property to accurately determine the lateral and vertical extent of contamination and presence or absence of additional tanks. This subsurface investigation should include:**
  - **the extension of soil borings in the vicinity of the two known tanks as well as in the vicinity of the two tanks noted on the historical maps; and**
  - **where possible, these borings should be extended down to the shallow groundwater table to gain a preliminary indication of groundwater integrity on this site.**

- **Groundwater monitoring wells should be installed on the subject property so that an accurate assessment of groundwater conditions can be conducted. This work can be coordinated concurrently with the subsurface investigation.**

- **The two known tanks, and the third suspected tank if it is found to exist, should be removed from the subject property. Any saturated soil encountered in the immediate vicinity of the tanks at the time of their removal should be removed at the same time.**

- **A soil vapor extraction system (SVES) should be installed on the subject property to begin the in situ remediation of on-site soils.**

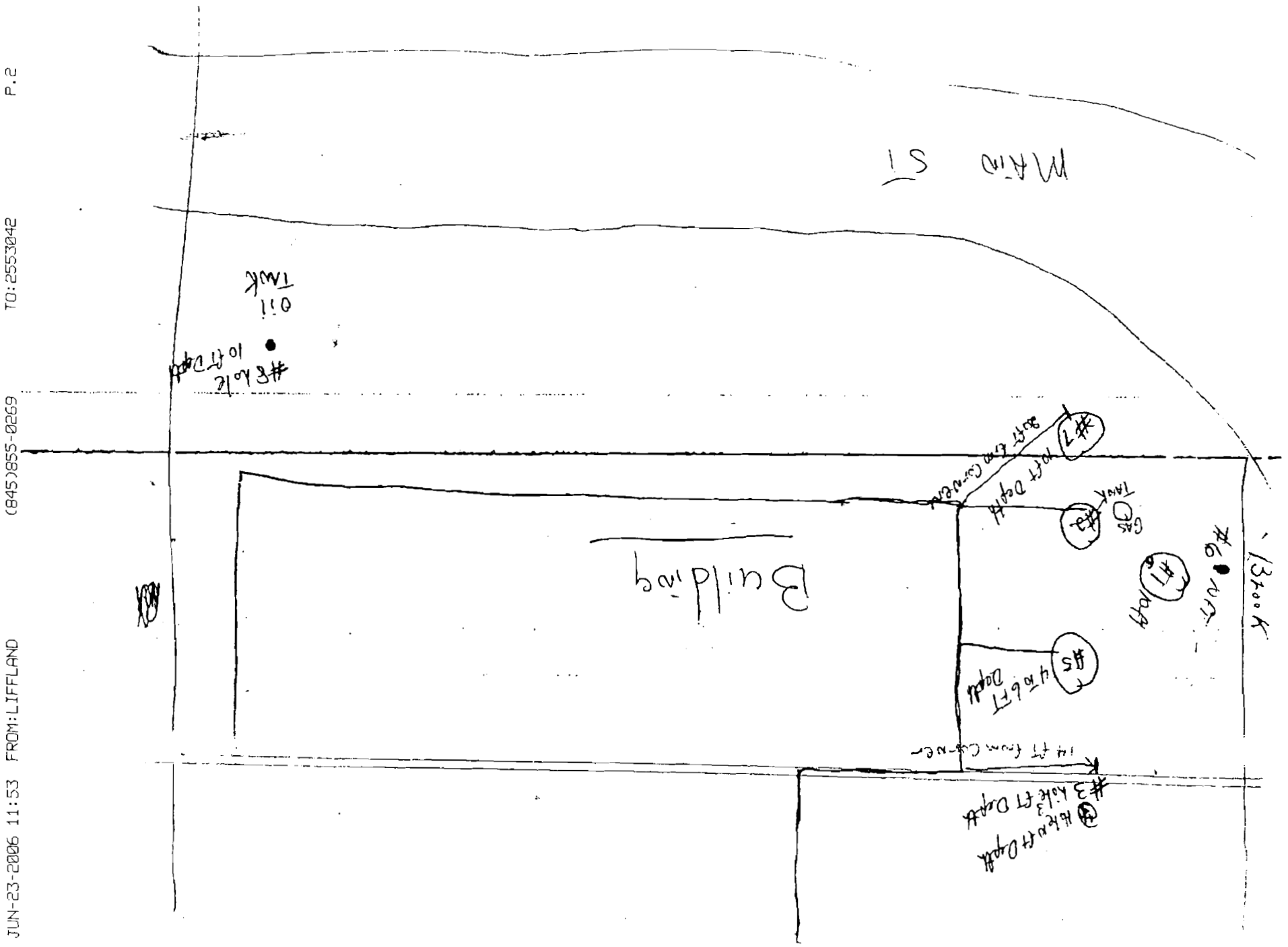
- **The NYSDEC should be kept fully apprised of all investigative and/or remedial actions on this site and the NYSDEC should be consulted during the formulation of a long-term remedial strategy (e.g., the need for a groundwater treatment system) for this property.**

Please contact me at (914) 452-1658 after you have reviewed this Letter-Report so that we can discuss this matter.

Sincerely,

ECOSYSTEMS STRATEGIES, INC.

Paul H. Ciminello
President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