

Kenneth R. Henneman, Water Resources Consultant
3142 Montpelier Court
Pleasanton, CA 94588
(415) 846-4450

September 27, 1990

Mr. Ravi Arulanantham, Ph.D.,
Hazardous Materials Specialist
Dept. of Environmental Health,
Division of Hazardous Materials
805 Swan Way, Room 200
Oakland, CA 94621

Subject: Work Plan for drilling six borings to groundwater
to check for gas pollution at Dublin Rock and Ready Mix

Dear Mr. Arulanantham:

Here, pursuant to our discussion at the DRRM site on 9/20/90, is subject work plan.

Material is presented as follows:

- * Background
- * Work Plan
- * Geohydrology

Background

A 500 gallon gas tank, unused for 5 years, was removed from the site last winter. Gas was detected in both the shallow (8'-12' deep) groundwater and the bottom soil samples. No floating product was observed. Some overexcavation was done. Alameda County requested a cleanup investigation be conducted.

The owner, Todd Bettencourt, asked me what could be done, he did not have funds for a big expensive groundwater study. I suggested that the extent of the polluted groundwater under the site should be determined.

This work plan is a start on determining the extent of the pollution in the groundwater. This plan stems from suggestions to Mr. Bettencourt in my 8/24/90 and 9/5/90 letters to him, of which you have copies. Mr. Bettencourt will drill six borings (shown on Attachment 1) to groundwater and I will take water samples.

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General information:

Property Owner: I do not know.

Business: Dublin Rock and Ready Mix
6393 Scarlett Court
Dublin, CA 94568
Phone: 828-5599

Responsible party (owner): Mr. Todd Bettencourt, same address

Type Business: Sells concrete readymix and rock.

Consultant: Kenneth R. Henneman
Water Resources Consultant
3142 Montpelier Court
Pleasanton, CA 94588
Phone: 846-4450

Laboratory: Clayton Environmental Consultants
1252 Quarry Lane
Pleasanton, CA 94566
Phone: 426-2600, State #1196

Work: Bore six holes to groundwater 20'-50' away and around the tank site to see if the shallow gas polluted water under the tank has spread. Borings will be 1'-3' below water table, which may be 8'-12' deep. Bettencourt will drill the borings, I will sample the groundwater. I understand the gas tank excavation pit did not cave in below water, and trust the bore holes will not, sometimes they do, and if so I sample the mud.

Work Plan

1. The proposed location of the six borings are shown on Attachment 1.
2. Bettencourt will drill the test holes (by hand or with a small tractor mounted drill rig, 6" to 8" diameter) down to moisture, probably 7'-10'. This should be done early in the day. He will call me when all 6 are so drilled.

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3. I will then work with him to drill about a 4" hole 1'-3' into the water table. We will try to minimize churning up of the soil and water. There are times when hand drilling is actually better than rig drilling, even when using hollow stem augers, because you can minimize disturbance. This may or may not be the case at this site, and depends in part on if the hole caves in.
4. A water sample will be taken from each boring with a clean plastic bailor. It will be placed in standard 40 mg/L preserved VOA sample bottles. I take two 2-bottle sets, and a quart bottle for standard mineral analyses. I will have Clayton hold the extra set, and I will keep the quart bottles, until the analyses are completed. If there is a problem a mineral analyses will help us determine if the shallow water is different than the deeper water.
5. One soil sample will be taken from boring #1 just above water level.
6. The samples will be kept in an iced cooler and delivered to Clayton Laboratory in Pleasanton. Clayton is a state approved laboratory (State Certified #1196).
7. Clayton will analyze the samples for TPH gas with BTX (light fraction, EPA #8015+).
8. I will prepare and submit a report with the results, and will physically describe the procedures used. If follow-up work is required, that will be discussed as necessary.

Everyone want to proceed as fast as possible, but especially before it rains. The drilling permit application will be submitted to Zone 7 today and could be approved by the end of September. The holes will be sealed with a 8 sack cement/sand grout mix by Mr. Bettencourt. Mr. Bettencourt will try to schedule the work for the first week in October.

Geohydrology

A brief review of the geohydrology was done for the 8/24/90 letter, as indicated therein the following is relevant:

1. This site is in the Dublin groundwater subbasin, in the fringe area, not the central groundwater basin, as defined by Zone 7 in the 1982 Wastewater Management Plan and in the RWQCB Basin Plan. Groundwater TDS objectives are 1000 mg/L.

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Geohydrology (Cont'd)

2. Samples from nearby Zone 7 monitoring well 3S1E6F3 for the past 15 years show TDS ranges from 1200 to 2000 mg/L, Chlorides vary a lot to over 250 mg/L.
3. There are confined groundwater zones beneath the site. The shallow water encountered likely, in fact probably, is just shallow water, but I do know for sure.
4. The site is in node 20 of the old State/Zone 7 groundwater model which shows, as do groundwater contour maps for the past 50 years, a generally southerly (downhill) groundwater flow (gradient). Transmissivity is low, and southerly movement of the generally poor quality deeper water out of this subbasin node is blocked in part by the Parks Fault on the south.
5. The soil infiltration rate here is very slow, and the data show there is probably less than 10' of aquifer (sand/gravel) in the first 100' below the site. (Plate 9A, DWR BuL. #118-2, Apdx. A shows permeability rate of "very slow at <0.05-0.2 inches/hour and an upper acquiclude of over 50'.) The top soil is mostly clay, but there are deeper groundwater bearing zones extending to over 200 feet.

In short, although this is a groundwater area that must be protected (there may still be some old individual wells in the area), it is not a critically important groundwater zone area requiring urgent action. Migration, slow or otherwise, of the naturally poor quality water southward towards the Pleasanton City and Zone 7 well fields near Valley Avenue is a groundwater management consideration. Overall water movement is slow, and it is monitored in part because of the potential for influx of poor quality water.

* * * *

This presents the work as discussed at the site and as now proposed.

Please note this plan is based in part on the available funds and in part on the physical situation. My alternative and first consideration, which may cost 50% more, was to drive a well point and resample under the tank. Then, if the water was polluted, reexcavate the sand from the pit, dig down 5'-8' into the water, put in a 22" extraction sump, and extract and then either use or discharge the carbon treated groundwater. If there had been floating product I would have recommended this in spite of cost.

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Geohydrology (Cont'd)

However, the old tank apparently was covered with gravel and had not been used for 5 years, so most spilled gas would have evaporated, and rainstorms have already soaked the tank site and, if it is possible that the groundwater could have moved the spilled gas, it probably already has.

Please let Mr. Bettencourt or me know if this plan is acceptable. Call if you have any questions. The drilling permit and drilling arrangements should be completed by September 30, and the work is targeted to be done on October 3, 1990.

Sincerely yours,

Kenneth R. Henneman
Kenneth R. Henneman
Water Resources Consultant
RE17700



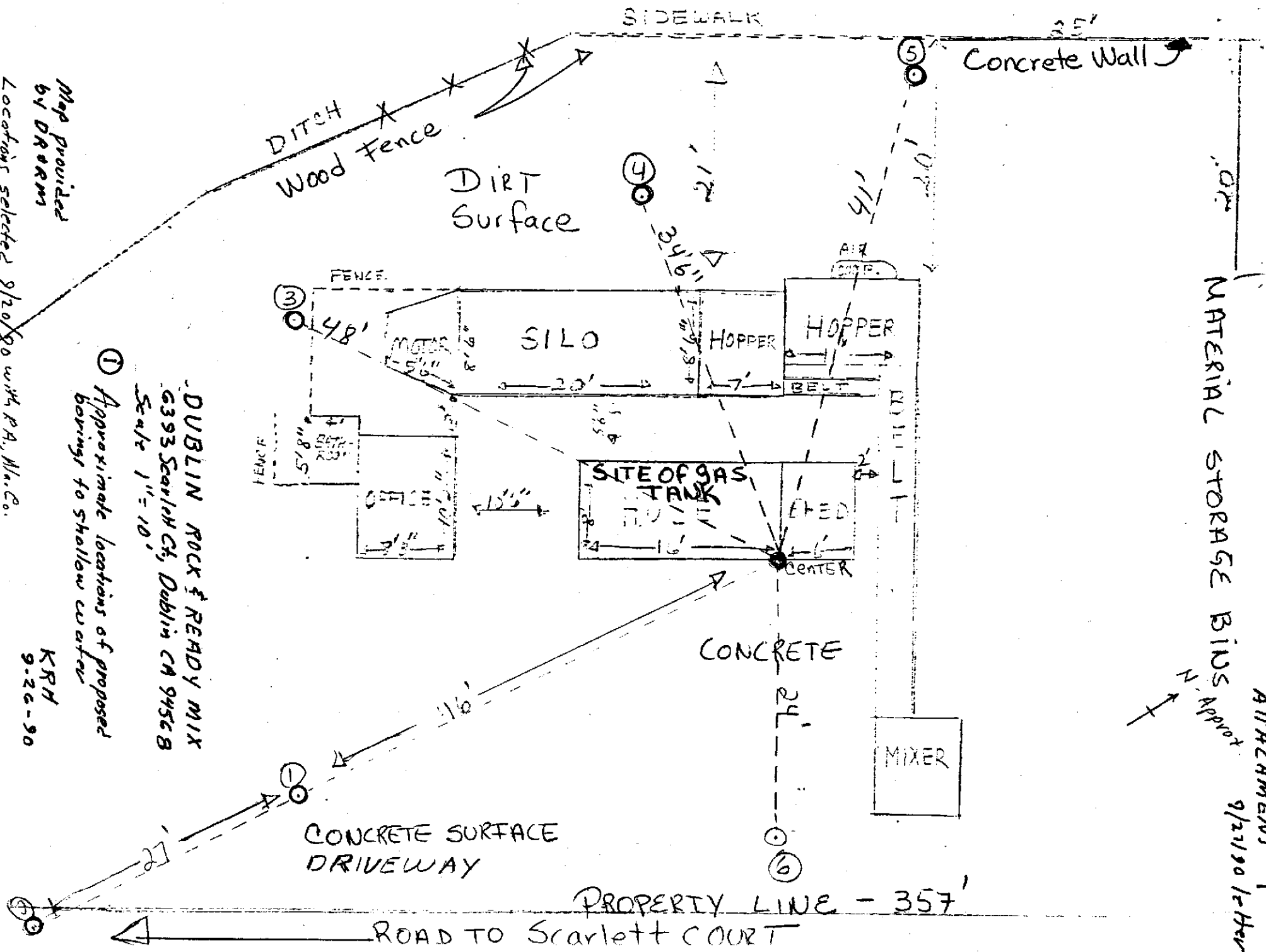
CC - T.B.

Map provided by DRORM
 Locations selected 9/20/90 with R.A., M.N.C.O.

① Approximate locations of proposed borings to shallow water
 DUBLIN ROCK & READY MIX
 6393 SCARLETT CT, DUBLIN CA 94568
 Scale 1" = 10'

KRH
 9-26-90

09-26-90



MATERIAL STORAGE BINS

N. Approx

ATTACHMENT 1
 9/21/90 letter



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94566 (415) 484-2600

ATTACHMENT 3

10/17/90 Bettencourt Letter

2 October 1990

ZONE 7, ACFCWCD
PERMIT #90599

Kenneth Henneman
3142 Montpelier Court
Pleasanton, CA 94588

Dear Mr. Henneman:

Enclosed is Groundwater Protection Ordinance permit 90599 for a contamination investigation at 6393 Scarlett Court in Dublin for Dublin Rock & Ready Mix.

Please note that permit condition A-2 requires that a report be submitted after completion of the work. The report should include drilling logs, location sketch, and permit number.

If you have any questions, please contact Todd Wendler or Craig Mayfield at 484-2600.

Very truly yours,

Jim Dixon
General Manager

By

J. Killingstad, Chief
Water Resources Engineering

TW:mm
Enc.



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94566 (415) 484-2600

GROUNDWATER PROTECTION ORDINANCE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT Dublin Rock & Ready Mix
6393 Scarlett Court
Dublin, CA 94568

PERMIT NUMBER 90599
LOCATION NUMBER

AGENT
Name Todd Bettencourt, DR & RM
Address 6393 Scarlett Court Phone 828-5599
City Dublin, CA Zip 94568

PERMIT CONDITIONS

Circled Permit Requirements Apply

APPLICANT
Name Kenneth R. Henneman
Water Resources Consultant
Address 3142 Montpelier Ct. Phone 846-4450
City Pleasanton, CA Zip 94588

A. GENERAL

- 1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

TYPE OF PROJECT
Civil Construction Geotechnical Investigation
Cathodic Protection General
Water Supply Contamination X
Monitoring Well Destruction

B. WATER WELLS, INCLUDING PIEZOMETERS

- 1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

PROPOSED WATER SUPPLY WELL USE
Domestic Industrial Other
Municipal Irrigation

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

DILLING METHOD:
Rotary Air Rotary Auger X
Other possible some by hand

- D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.
E. WELL DESTRUCTION. See attached.

DRILLER'S LICENSE NO. By hand or small tractor auger

WELL PROJECTS
Drill Hole Diameter In. Maximum
Casing Diameter In. Depth ft.
Surface Seal Depth ft. Number

GEOTECHNICAL PROJECTS
Number of Borings 86 Maximum
Hole Diameter 6 or 8 in. Depth 15 ft.

ESTIMATED STARTING DATE 10/3/90
ESTIMATED COMPLETION DATE 10/5/90

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

Approved Todd N. Wendler Date Oct 90

APPLICANT'S SIGNATURE Kenneth R. Henneman Date 9/27/90