

## Wickham, Jerry, Env. Health

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**From:** Couch, Shannon L. (URS) [Shannon.Couch@bp.com]  
**Sent:** Friday, August 31, 2012 2:32 PM  
**To:** Wickham, Jerry, Env. Health  
**Subject:** ARCO 771- 899 Rincon Avenue, Livermore  
**Attachments:** 771 Soil Data.pdf; Drawing 2 - Site Map ARCO 771.pdf; ARCO 771 .JPG

Hi Jerry,

It was nice meeting you last Wednesday and I look forward to working with you.

I wanted to give you an update regarding the product that was discovered at ARCO 771. The well was initially measured on July 25, 2012. Unfortunately I was not informed until this week that the product was discovered after Broadbent had conducted their QA/QC of the field data sheets. I immediately contacted our BP compliance office to report the product that was measured at 0.01 feet in thickness. (Picture is attached)

Our compliance representative informed me there had not been any alarms to indicate there had been a release. They are sending out a contractor ( I believe today) to re-check if any alarms occurred and to perform a visual inspection. In addition, they are going to perform a tank and line test next week to see if there is any other indication that the system has been compromised in some way.

I also reviewed the soil data from this well ( I have attached it – SB-10) and it does appear there is anything significant here.

Broadbent returned to the site today, August 31, 2012, to measure product thickness in well MW-7. The same thickness, 0.01 feet, was measured in well MW-7. I also requested they measure neighboring wells and no product was observed any of the neighboring wells. I asked them to bail the product and collect a grab groundwater sample and put in on a quick turn with the lab.

You indicated in our meeting that there is a muni well within 850 feet of the site. Do you have any additional information for this well (depth, screened interval, etc)? If you can share this information with me, I would appreciate it.

I will keep you posted on the system testing and will inform you when we receive the results of the sample.

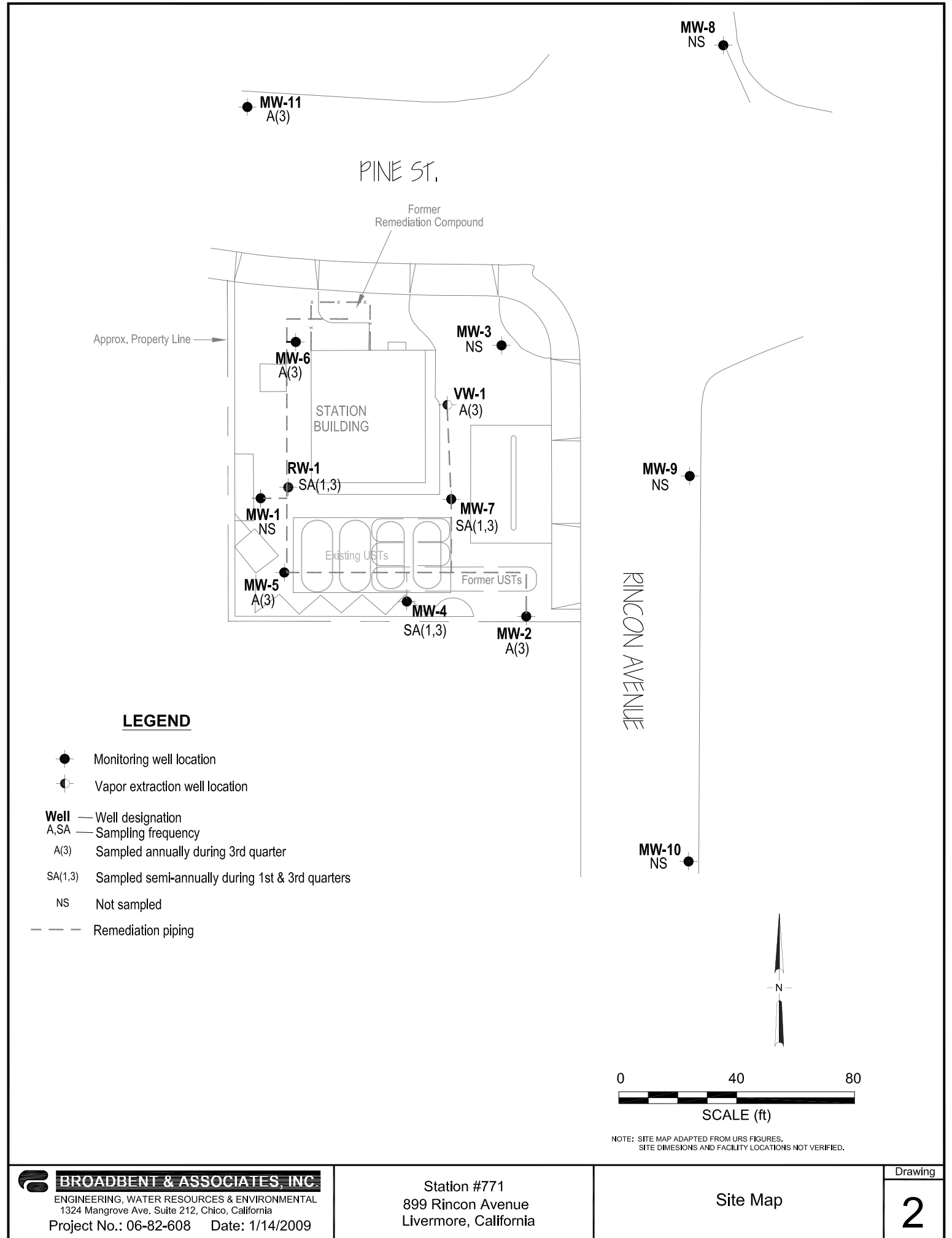
Thanks and feel free to contact me with any questions.

-Shannon

**Shannon Couch**  
**Operations Project Manager**  
**Remediation Management**

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(a BP affiliated company)  
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<<771 Soil Data.pdf>> <<Drawing 2 - Site Map ARCO 771.pdf>> <<ARCO 771 .JPG>>



**LEGEND**

- Monitoring well location
- Vapor extraction well location

- Well** — Well designation  
 A,SA — Sampling frequency  
 A(3) — Sampled annually during 3rd quarter  
 SA(1,3) — Sampled semi-annually during 1st & 3rd quarters  
 NS — Not sampled  
 - - - Remediation piping

NOTE: SITE MAP ADAPTED FROM URS FIGURES.  
 SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

Additional Onsite and Initial Offsite Subsurface Investigation  
ARCO Station 771, Livermore, California

February 26, 1993  
60000.09

TABLE 2  
CUMULATIVE RESULTS OF LABORATORY ANALYSES OF SOIL SAMPLES  
ARCO Station 771  
Livermore, California  
(Page 1 of 4)

Sample Identification	TPHg	TPHd	B	T	E	X	TOG
<u>February 1990</u>							
S-10-B1	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA
S-19.5-B1	<1.0	NA	0.022	0.024	<0.005	0.022	NA
S-24.5-B1	<1.0	NA	0.022	0.015	0.010	0.048	NA
S-29.5-B1	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA
S-10-B2	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA
S-20-B2	<1.0	NA	0.016	0.020	<0.005	0.025	NA
S-25-B2	1.4	NA	<0.01	<0.01	<0.01	0.018	NA
S-31-B2	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA
S-10-B3	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA
S-19.5-B3	<1.0	NA	0.028	<0.005	<0.005	0.017	NA
S-25-B3	4.5	NA	0.047	<0.01	0.011	0.038	NA
S-32.5-B3	190	NA	<1.0	<1.0	<1.0	1.7	NA
<u>December 1990</u>							
S-20-B4	<1.0	NA	0.006	<0.005	<0.005	<0.005	NA
S-30-B4	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA
S-32.5-B4	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA
S-36.5-B4	140	NA	<0.15	0.80	1.7	4.2	NA
S-43-B4	3,800 /	NA	<1.5	130	50	280	NA
S-45.5-B4	5.5	NA	0.16	0.51	0.11	0.82	NA
S-20-B5	<1.0	NA	0.068	0.013	0.009	0.026	NA
S-30-B5	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA
S-34.5-B5	97	NA	<0.005	0.13	0.087	0.22	NA
S-39.5-B5	13	NA	0.15	0.66	0.16	1.5	NA
S-45-B5	<1.0	NA	<0.005	0.006	<0.005	0.009	NA
S-20-B6	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA
S-30-B6	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA
S-36.5-B6	<1.0	NA	<0.005	<0.005	<0.005	0.006	NA
S-41-B6	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA
S-44.5-B6	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA
S-011591-1ABCD*	31	NA	0.25	0.67	0.34	2.8	NA
<u>June, July 1991</u>							
S-10-B7	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA
S-20-B7	2.2	NA	0.074	0.12	0.061	0.43	NA
S-25-B7	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA
S-30-B7	48	NA	0.064	0.15	0.41	1.9	NA

See notes on page 4 of 4.

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<u>June, July 1991 cont.</u>							
S-33-B7	<1.0	NA	<0.005	0.006	<0.005	0.010	NA
S-40-B7	19	NA	0.019	0.059	0.14	0.74	NA
S-44-B7	<1.0	NA	0.049	0.020	0.021	0.024	NA
S-10.5-B8	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA
S-20.5-B8	<1.0	NA	0.013	<0.005	<0.005	<0.005	NA
S-25.5-B8	3.5	NA	<0.005	0.007	0.015	0.028	NA
S-34.5-B8	210	NA	0.27	1.0	2.0	12	NA
S-41-B8	3,200	NA	10	70	37	170	NA
S-43-B8	4.9	NA	0.26	1.2	0.13	0.67	NA
S-10.5-B9	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA
S-15.5-B9	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA
S-25.5-B9	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA
S-34.5-B9	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA
S-36-B9	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA
S-42-B9	1.8	NA	0.049	0.006	0.020	0.030	NA
S-45-B9	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA
S-10.5-B10	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA
S-20.5-B10	<1.0	NA	0.042	<0.005	0.007	<0.005	NA
S-25.5-B10	27	NA	0.44	0.74	0.36	2.0	NA
S-34.5-10	88	NA	0.20	0.50	0.84	0.96	NA
S-36-B10	110	NA	0.28	0.51	0.86	2.7	NA
S-42-B10	<1.0	NA	0.008	<0.005	<0.005	0.021	NA
S-7-B11	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<30
S-8.5-B11	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<30
S-15.5-B11	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<30
S-20.5-B11	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<30
S-25.5-B11	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<30
S-35.5-B11	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<30
S-40-B11	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<30
<u>August 12, 1991</u>							
SP1-ABCD*	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA
<u>April 1992</u>							
S-10.5-B15	<1.0	NA	<0.0050	<0.0050	<0.0050	<0.0050	NA
S-20.5-B15	<1.0	NA	<0.0050	<0.0050	<0.0050	<0.0050	NA
S-28.5-B15	<1.0	NA	<0.0050	<0.0050	<0.0050	<0.0050	NA
S-41-B15	<1.0	NA	<0.0050	<0.0050	<0.0050	<0.0050	NA

See notes on page 4 of 4.

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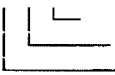
Sample Identification	TPHg	TPHd	B	T	E	X	TOG
<u>April 1992 cont.</u>							
S-11-B16	<1.0	NA	<0.0050	<0.0050	<0.0050	<0.0050	NA
S-21-B16	<1.0	NA	0.0080	<0.0050	<0.0050	<0.0050	NA
S-31-B16	<1.0	NA	<0.0050	<0.0050	<0.0050	<0.0050	NA
S-11-B17	<1.0	NA	<0.0050	<0.0050	<0.0050	<0.0050	NA
S-21-B17	<1.0	NA	0.021	<0.0050	0.017	0.0080	NA
S-30.5-B17	<1.0	NA	<0.0050	<0.0050	<0.0050	<0.0050	NA
S-33-B17	<1.0	NA	<0.0050	<0.0050	<0.0050	<0.0050	NA
S-43-B17	7.0	NA	0.30	0.77	0.15	1.1	NA
S-0409-SP1-A-D*	<1.0	NA	<0.0050	<0.0050	<0.0050	<0.0050	NA
S-0409-SP2-A-D*	6.4	NA	0.0070	0.015	0.020	0.12	
<u>January 1993</u>							
S-9-B12	<1.0	NA	<0.0050	<0.0050	<0.0050	<0.0050	NA
S-17-B12	<1.0	NA	<0.0050	<0.0050	<0.0050	<0.0050	NA
S-26-B12	<1.0	NA	<0.0050	<0.0050	<0.0050	<0.0050	NA
S-43.5-B12	<1.0	NA	<0.0050	<0.0050	<0.0050	<0.0050	NA
S-9.5-B13	<1.0	NA	<0.0050	<0.0050	<0.0050	<0.0050	NA
S-14.5-B13	<1.0	NA	<0.0050	<0.0050	<0.0050	<0.0050	NA
S-26-B13	<1.0	NA	<0.0050	<0.0050	<0.0050	<0.0050	NA
S-40-B13	<1.0	NA	<0.0050	<0.0050	<0.0050	<0.0050	NA
S-9.5-B14	<1.0	NA	<0.0050	<0.0050	<0.0050	<0.0050	NA
S-17-B14	<1.0	NA	<0.0050	<0.0050	<0.0050	<0.0050	NA
S-27.5-B14	<1.0	NA	<0.0050	<0.0050	<0.0050	<0.0050	NA
S-38-B14	<1.0	NA	<0.0050	<0.0050	<0.0050	<0.0050	NA
S-0115-SP-A-D**	<1.0 [<0.050]	NA [NA]	<0.0050 [0.00050]	<0.0050 [0.00050]	<0.0050 [0.00050]	<0.0050 [0.00050]	NA [NA]

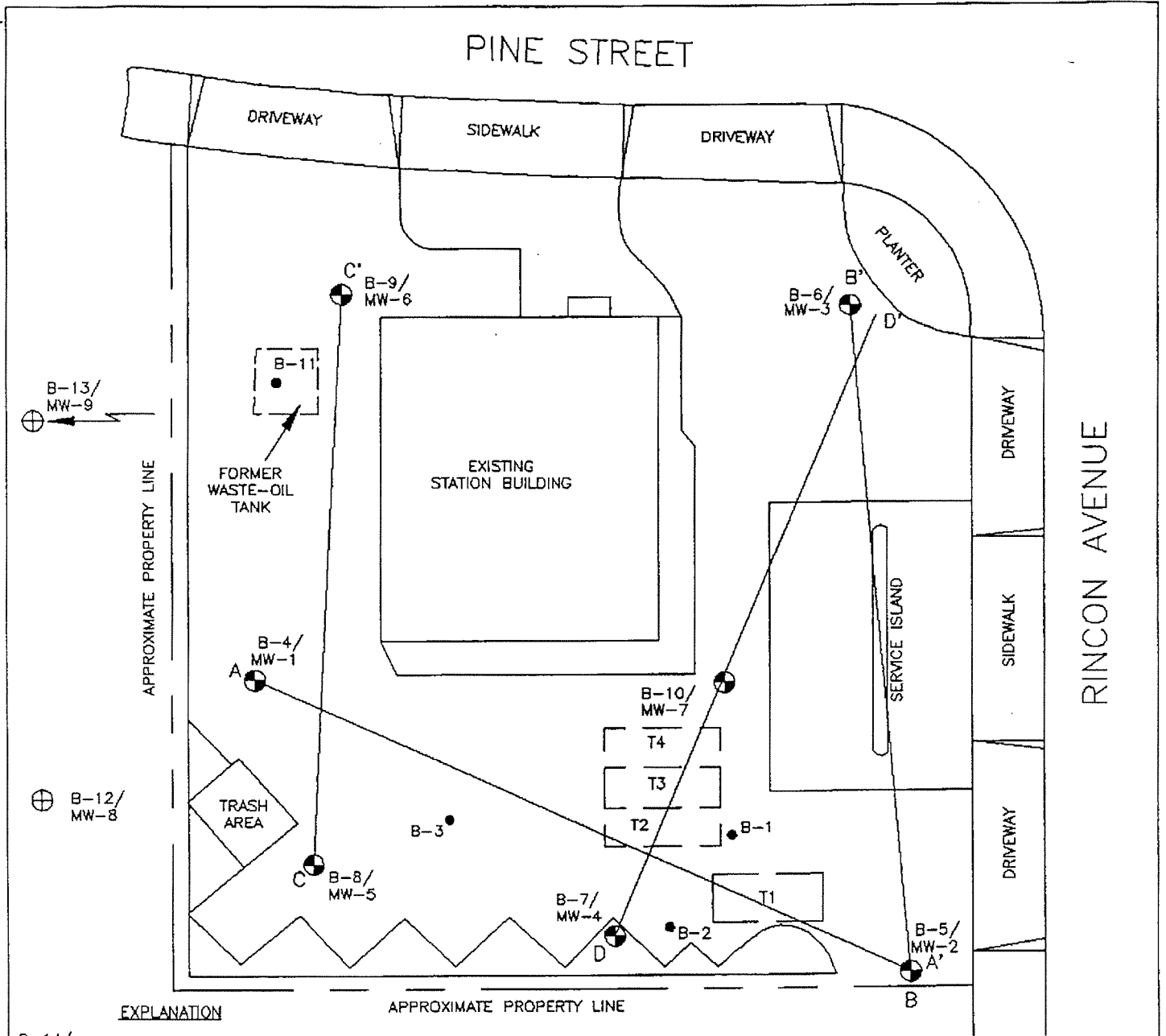
See notes on page 4 of 4.

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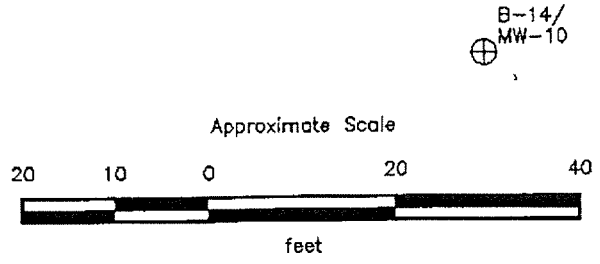
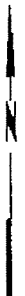
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Sample Identification	TPHg	TPHd	B	T	E	X	TOG
Results measured in part per million (ppm).							
TPHg:	Total petroleum hydrocarbons as gasoline (analyzed by EPA Method 5030/8015/8020).						
TPHd:	Total petroleum hydrocarbons as diesel (analyzed by EPA Method 5030/8015).						
B:	benzene; T: toluene; E: ethylbenzene; X: xylenes.						
BTEX:	Analyzed by EPA Method 5030/8015/8020.						
TOG:	Total oil and grease (analyzed by Standard Method 5520 E&F (Gravimetric).						
*:	Composite sample of four soil samples obtained from stockpiled soil.						
<:	Less than the laboratory detection limit.						
NA:	Sample not analyzed.						
†:	Sample was also analyzed for: SILC lead by EPA Method 7421 - < 0.10 ppm; corrosivity by EPA Method 9045 - pH = 7.1; ignitability by EPA Method 1010 - flashpoint >100°C; and reactivity by EPA Methods 9030, 9010 and 9045 - sulfide <10 ppm, cyanide <0.50 ppm, reaction with water - negative.						
[]:	TPHg and BTEX analyzed by EPA Method 5030/8015/8020 TCLP extract of soil.						
Sample Identification:	S-43-B17						
			Boring number Depth of boring in feet Soil sample				



**EXPLANATION**

- B-14/  
MW-10 ⊕ = Proposed boring/monitoring well location
- B-10/  
MW-7 ⊙ = Monitoring well  
(Applied GeoSystems,  
December 1990, June, and July 1991)
- B-11 ● = Soil boring  
(Applied GeoSystems,  
February 1990, July 1991)
- D — D' = Geologic cross sections
- [ T4 ] = Underground gasoline-storage tank



Source: Surveyed by Jahn Koch, Licensed Land Surveyor.

<b>RESNA</b>	<b>PROJECT</b> 60000.06	<b>PROPOSED BORING/ MONITORING WELL LOCATIONS ARCO Station 771 899 Rincon Avenue Livermore, California</b>	<b>PLATE A</b>