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October 14, 2004

Alameda County

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Environmental Health

Mr. Don Hwang
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

RE: **Workplan for Additional Off-Site Monitoring Well Installation**
Former 76 Service Station No. 7004
15599 Hesperian Boulevard, San Leandro, CA
SECOR Project No.: 77CP.67004.00.0002

Dear Mr. Hwang:

SECOR International Incorporated (SECOR) is pleased to submit this Work Plan to the Alameda County Department of Environmental Health (ACDEH) on behalf of ConocoPhillips, to further investigate subsurface conditions beneath Former 76 Service Station No. 7004, located at 15599 Hesperian Boulevard, San Leandro, California (Figure 1). This work plan was prepared on a voluntary basis, not in response to any agency request.

BACKGROUND AND PREVIOUS INVESTIGATIONS

The site is a former 76 Service Station which was demolished in May of 2000. At that time all subsurface tanks, piping and aboveground components were removed. The site is currently a paved parking lot within a Target department store complex, and is situated adjacent to a former auto parts store, which is currently vacant. The site is located at the northwest corner of Hesperian Boulevard and Lewelling Boulevard, in San Leandro, California.

In October, 1990, Kaprealian Engineering, Inc (Kaprealian) observed the removal of three underground storage tanks (USTs) and removal and replacement of product piping at the Site. The tanks included one [steel] 12,000-gallon super unleaded fuel tank and two [steel] 12,000-gallon regular unleaded fuel tanks. No holes or cracks were observed in the tanks. 14 confirmation soil samples were collected from the tank pit and analyzed for total petroleum hydrocarbons as gasoline (TPHg), and benzene, toluene, ethylbenzene, and xylenes (BTEX). Soil samples collected from the final tank excavation contained up to 30 milligrams per kilogram (mg/kg) TPHg and 0.054 mg/kg benzene. Toluene, ethylbenzene, and xylenes were also detected. A water sample collected from the tank pit contained 4,300 parts per billion (ppb) TPHg and 40 ppb benzene. Samples collected from the final pipeline trenches contained up to 20 mg/kg TPHg and 0.057 mg/kg benzene, as well as toluene, ethylbenzene, and xylenes.

In April and June, 1991 KEI supervised the installation of six 2-inch diameter monitoring wells (MW1 through MW6). All wells were completed to 25 to 26 feet below ground surface (bgs). Select soil samples and grab groundwater samples from each well were analyzed for TPHg and BTEX. Soil samples contained up to 4,800 parts per million (ppm) TPHg and 23 ppm benzene (17.5 feet bgs in MW3). Toluene, ethylbenzene, and xylenes were also

detected. Post development groundwater samples from these wells contained up to 34,000 ppb TPHg and 6,100 ppb benzene (MW3).

In May, 1992 KEI installed a 6-inch diameter aquifer test well (RW-1) and conducted an Aquifer test using RW-1 for extraction and MW-2, MW3, MW4, and MW5 for observation. Aquifer parameters determined from the test (via the Theis method) for RW1 were as follows:

- Transmissivity (confined): 35 ft^2/day
- Storativity (confined): $6.3E^{-6}$
- Conductivity (confined): 0.3 ft/day

Oxygen releasing compound was placed in MW-5 in 1999. Oxygen releasing compound (360 pounds) was also placed in the bottom of the UST pit during tank removal in 2000. There is no current active remediation.

In May, 2000, Gettler-Ryan observed the removal of two 12,000-gallon, double-walled glasteel USTs and fiberglass product piping and dispensers at the Site. At this time all Station-related structures were also demolished and removed. Four soil samples were collected from the tank pit excavation, and four were collected from the pipeline trenches. The samples were analyzed for TPHg, BTEX and methyl tertiary butyl ether (MtBE). Tank pit samples contained up to 350 ppm TPHg, 4.8 ppm ethylbenzene, and 0.81 ppm xylenes, but were non-detectable for benzene and MtBE. Pipeline trench samples were non-detectable for all analytes.

In November, 2001, SECOR conducted a 5 day dual phase extraction (DPE) test at the site. The test utilized MW-3 and RW-1 for extraction. During the test applied vacuum was approximately 25 inches of mercury, vapor extraction flow rates ranged from approximately 22 to 155 cubic feet per minute, and groundwater extraction flow rates ranged from 0.05 to 0.5 gallons per minute. During the test influent vapor concentrations dropped from a high of 5,200 parts per million by volume (ppmv) TPHg at the start of the test to 440 ppmv TPHg at the end of test. Based on the data collected during the test approximately 36.55 pounds of vapor phase TPHg, 0.56 pounds of vapor phase benzene, and 0.47 pounds of vapor pahse MtBE were removed from the subsurface. The radius of influence was estimated at 15 to 55 feet for MW-3 and 48 to 85 feet for RW-1.

In September, 2002, Gettler-Ryan drilled and sampled five direct push soil borings (GP-1 through GP-5) in the vicinity of the Kragen Auto Parts building and the former USTs. Soil and groundwater samples were collected from each boring and analyzed for TPHg, BTEX, and fuel oxygenates. All soil samples were below detection for all analytes, except for Sampe GP-3 @13.5 feet which contained 0.051 mg/kg MtBE and 0.083 mg/kg tertiary butyl alcohol. Groundwater samples contained 22 to 96,000 ppb TPHg, 0.47 to 360 ppb MtBE. Ethylbenzene and TBA were also detected.

The Site has been monitored and sampled since 2nd quarter, 1991. Between 1991 and 1995, Monitoring was conducted quarterly. Between 1996 and 2001 the Site was monitored semiannually. From January, 2002 to July, 2003 the Site was monitored monthly. Currently, seven well (MW-1 through MW-6 and RW-1) are sampled quarterly. Samples are analyzed for total purgable petroleum hydrocarbons (TPPH), BTEX, and fuel oxygenates.

PROPOSED SCOPE OF WORK

The proposed scope of work includes five primary tasks as described below.

Task 1 - Preliminary Field Activities

Prior to conducting the subsurface investigation, SECOR will prepare a Site-specific Health and Safety Plan (HASP) for use by personnel implementing the Work Plan. The HASP will address the proposed subsurface investigation activities, and a copy of the HASP will be available on Site at all times. The subcontractor(s) performing the field activities will be provided with a copy of the HASP prior to initiating work.

SECOR will obtain monitoring well/boring installation permits from the Alameda County Public Works (ACPW). All boring locations will be marked and Underground Service Alert (USA) will be notified at least 48 hours in advance of drilling. In addition, proposed boring locations will be cleared by a private utility locator, and boring locations will be hand-dug (e.g. hand augered) to 5 feet bgs before machine drilling is performed.

Task 2 – Drilling and Installation of Monitoring Wells

In order to further delineate petroleum hydrocarbon contamination off-Site, SECOR proposes to install two new off-Site wells (MW-7 and MW-8) at the locations shown on Figure 1. The wells will be installed at total depths of approximately 25 feet below ground surface (bgs). MW-7 and MW-8 are intended to evaluate southwestern (downgradient) extent of MtBE and gasoline constituents detected consistently in MW-5.

All borings will be advanced to a maximum depth of 25 feet bgs. All boreholes will be advanced with a hollow-stem auger drill rig equipped with 8-inch diameter continuous flight augers. During drilling, soil samples will be collected at a minimum of five-foot intervals using a California-modified split-spoon sampler. Soil encountered will be logged by a SECOR geologist under the direction of a State of California Registered Geologist. Soil samples will also be screened in the field for the presence of volatile organic compounds (VOCs) using a photoionization detector (PID). Soil samples will be selected for chemical analysis based on visual observations, odors and PID readings. Samples selected for

chemical analyses will be contained in two-inch diameter by six-inch-long brass or stainless steel sleeves, capped at each end with Teflon® sheets and plastic end caps, and placed on ice in an insulated cooler. First encountered groundwater will be sampled in all borings using either a HydroPunch® sampling apparatus or by lowering a clean disposable bailer through the augers and retrieving a representative sample of the formation water. Groundwater samples will be decanted directly from bailers into laboratory supplied glassware using low-flow volatile organic analyte tips. All samples will be transported under chain-of-custody protocol to Severn Trent Laboratories, a state of California certified analytical laboratory. Select soil samples and grab groundwater samples will be analyzed for TPHg, BTEX, and fuel oxygenates using Environmental Protection Agency Method 8260B.

After drilling to the desired depth, monitoring wells will be constructed. Wells will be constructed of flush-threaded polyvinylchloride (PVC), machine-slotted well screen with 0.02-inch openings, and flush-threaded schedule 40 PVC blank casing. The tentative design for all wells will be 15 feet of screen placed at 10 to 25 feet bgs and blank PVC casing from top of screen to just below ground surface. This well design is proposed to ensure that (1) well screens do not become submerged during late winter and spring monitoring events when historical depths to water are highest, and (2) to ensure the wells produce sufficient water for purging and sampling. Historical groundwater monitoring data indicate that the local unconfined water table beneath the site commonly fluctuates between approximately 12.5 feet bgs during first and second quarter monitoring events to 15.5 feet bgs during third and fourth quarter events. Filter pack consisting of No. 3 Monterey sand or equivalent will be placed in the annular space from the bottom of the boring to approximately 1 foot above the top of well screen. One foot of hydrated granular bentonite will be placed above the sand, and a 5% bentonite-cement grout will be place from the top of the bentonite to just below ground surface. The wellheads will be completed at ground surface with locking well caps and traffic-rated vault boxes with bolt down lids. The vault boxes will be installed slightly above surrounding grade and finished with a cement apron that slopes away from the wellheads.

Task 3 – Well Development

After allowing the wellheads and grout to cure a minimum of 72 hours, SECOR will measure the total well depths and depths to water using a water level indicator calibrated to within 0.01 foot. SECOR will also check for the potential presence of separate phase hydrocarbon in the wells using a Solinst 122 Interface Probe capable of detecting free product thickness to 1 millimeter. SECOR will develop the wells by alternately surging the well with a vented surge block and bailing the well with a PVC bailer to remove sediment. Final purging will be performed with either a submersible pump or bailer, and pH,

temperature, and conductivity will be measured at regular intervals during purging. Development will be considered complete when either 8 well volumes have been removed and physical-chemical parameters have stabilized, 10 well volumes have been removed, or when the well has been purged dry (if the well does not sustain flow or is slow to recover).

All investigation derived waste (IDW), including soil cuttings and purge water, will be stored on-Site in Department of Transportation-approved 55-gallon drums, pending the results of chemical analyses. The analytical results will be used for waste profiling and disposal. After profiling, IDW will be transported and disposed at an appropriate State-certified disposal facility.

Task 4 – Surveying

After well installation, a California-licensed land surveyor will survey the wellheads with respect to North American Datum 83 to establish horizontal position and with respect to mean sea level (msl) to establish elevation of the top of casing. The wellhead elevations will be measured from an existing permanent monument. The wellhead elevations and the measured depths to groundwater will be used to calculate groundwater elevations relative to msl.

Task 5 - Summary Report

Upon completion of the soil boring and water sampling activities described above, SECOR will prepare a letter report describing the methods and results of the investigation. The letter report will be submitted to ConocoPhillips and the ACDEH and will include tabulated analytical data, figures depicting subsurface conditions including soil and groundwater chemical analytical results, and appendices containing laboratory reports and well completion and soil boring logs. The letter report will also include conclusions and recommendations for further work, if warranted.

SCHEDULE

SECOR is prepared to initiate field activities upon approval of this Work Plan by the ACDEH. We anticipate that the project will require approximately 12 to 16 weeks to complete, after soil boring permit applications are approved by the ACDEH.

Should you have any questions or concerns regarding these activities, please feel free to contact the undersigned at (916) 861-0400.

Sincerely,
SECOR International Incorporated

Mya Russell
Project Geologist

M. Gavan Heinrich R.G.
Associate Geologist

REGISTERED GEOLOGIST
M. GAVAN HEINRICH
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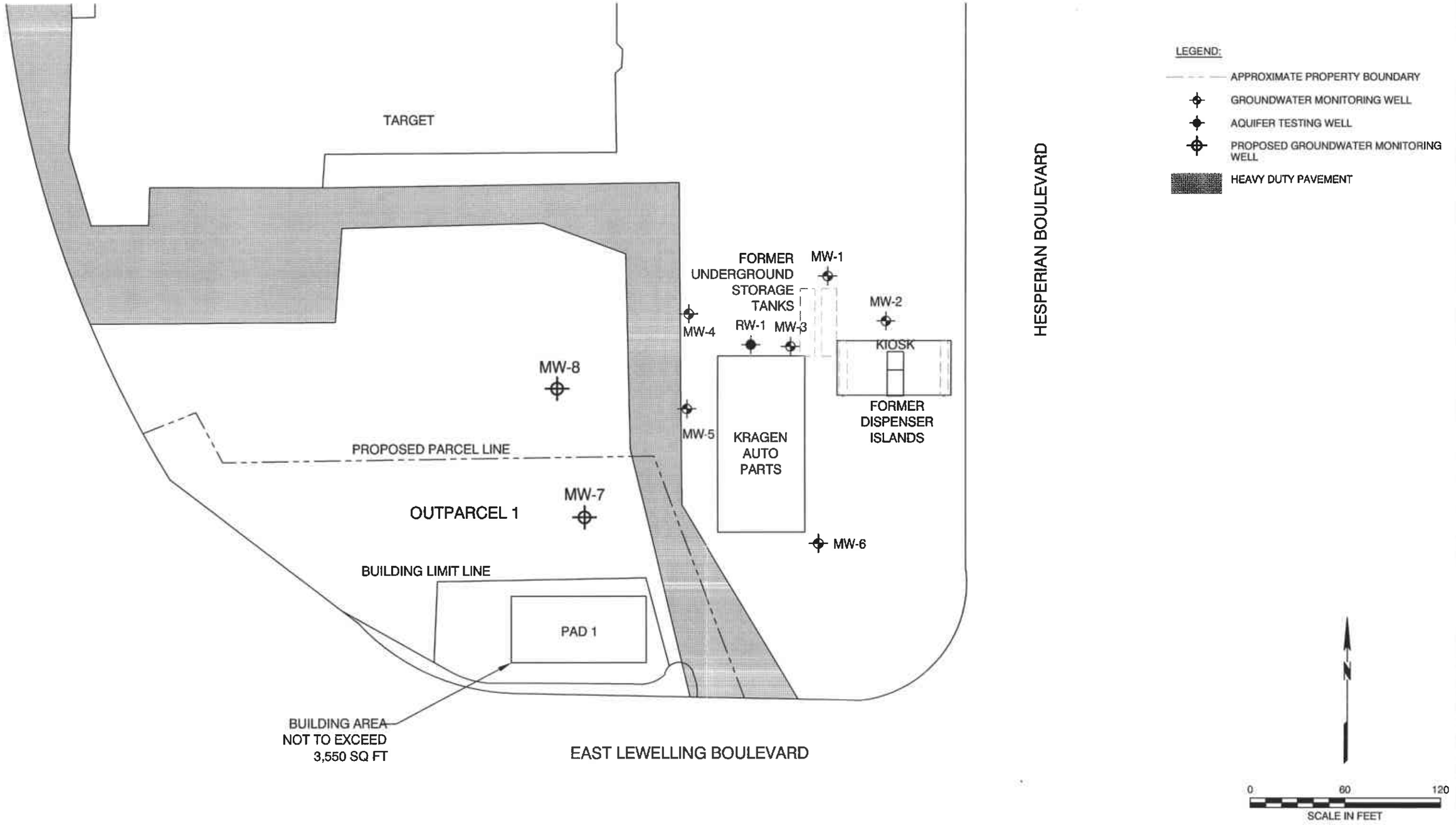
Figure 1 – Extended Site Map with Proposed Monitoring Well Locations

cc: Mr. Thomas Kosel, ConocoPhillips
Mr. David Luick, Target Corporation, 1000 Nicollet Mall, TPN – 0725 Minneapolis, MN 55403-9411
Mr. Alan Guttenberg, Guttenberg, Rapson and Colvin LLP, 101 Lucas Valley Road Suite 216, San Rafael, CA 94903
Gary Ragghianti, Ragghianti Freitas LLP, 874 Fourth Street, Suite D, San Rafael CA 94901



DRAWN BY: PR CHECKED: GH APPROVED: GH DATE: 10/11/04 DWR JOB NO.: 77CP.67004.00 CAD FILE: EXTENDED	PREPARED BY: SECOR 3017 KILGORE ROAD, SUITE 100 RANCHO CORDOVA, CA 95670	PREPARED FOR: CONOCOPHILLIPS FORMER 76 SERVICE STATION #7004 15599 HESPERIAN BOULEVARD SAN LEANDRO, CALIFORNIA	FIGURE 1 EXTENDED SITE PLAN

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