DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

RCRA Corrective Action
Environmental Indicator (EI) RCRAInfo code (CA725)
Current Human Exposures Under Control

Facility Name: **Chevron-Texaco**
Facility Address: **Glenham, NY**
Facility EPA ID #: **NYD091894899**

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EIs) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EIs developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of ACurrent Human Exposures Under Control@ EI

A positive ACurrent Human Exposures Under Control@ EI determination (AYE@ status code) indicates that there are no Aunacceptable@ human exposures to Acontamination@ (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all Acontamination@ subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EIs are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The ACurrent Human Exposures Under Control@ EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program=s overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRAInfo national database ONLY as long as they remain true (i.e., RCRAInfo status codes must be changed when the regulatory authorities become aware of contrary information).

1. Has **all** available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid

Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

__X__ If yes - check here and continue with #2 below.

_____ If no - re-evaluate existing data, or

_____ If data are not available skip to #6 and enter AIN@ (more information needed) status code.

Facility Background

Chevron USA (Chevron, also historically known as Texaco and Chevron/Texaco) operated a Research Center in Glenham, New York (Figure 1) from 1931 until its closure in 2003. The Main Facility includes all of the developed areas located north of Fishkill Creek and has been used as an on-shore, non-production, non-transportation laboratory complex engaged in research, development, and technical services related to petroleum products and energy. Petroleum, coal products, and solvents have been used at the Property in connection with the research functions.

Prior to its purchase by Texaco, from 1811 until 1930, the Site was the location of textile and woolen mills. The mills were powered by water wheels and steam engines. Operating in support of the mills were blacksmith and carpentry shops. The textile operations also reportedly maintained their own coal to gas production facility.

Texaco had filed for, and received, a 373 Hazardous Waste Management Permit No. 3-1330-00048/3-0 for the Beacon, New York property ("the Property") from the New York State Department of Environmental Conservation (NYSDEC ID #3-1330-48/16-0).

Previous investigations performed under this 373 Permit have included follow-up investigations to specific activities such as tank removals and spill investigations. A Phase III RCRA Facility Investigation (RFI) was completed by Texaco in March 2001 (IT 2001 a). In 2005, a Phase II Environmental Site Assessment was completed by Groundwater Sciences Corporation on behalf of a party interested in acquiring the Site. In 2006, Chevron completed the closure of the Industrial Sewer System (ISS) and the completion of the Recreation Area interim corrective measure (ICM). The Recreation Area (excluding the Tank Farm) was investigated and remediated from 1985-1986 and this remedial work was performed under NYS Inactive HW Disposal Program (State Superfund).

Location

The Property is located on 140 acres in Dutchess County, Town of Fishkill, immediately east of the City of Beacon, on land zoned "planned Industrial" by the County of Dutchess. The site consists of two distinct areas. The main portion of the Research Center is located on approximately 50 acres of land north of the Fishkill Creek. The Recreation Area portion of the property is located on approximately 90 acres of land south of the Fishkill Creek. Several reports have been prepared and submitted by various consulting companies describing work performed on the Recreation Area. (See Figure 1)

The Main Facility is bounded to the south by Fishkill Creek, to the north by Old Glenham Road, to the west by the Metro-North Railroad line and the Former Church Property, and to the east by private property including parking, residential housing and businesses. The Main Facility includes parking areas, offices and laboratory buildings, decommissioned aboveground storage tanks (ASTs), roads, wastewater treatment plants

and covered storage areas. (See Figure 2)

2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be A**contaminated**@[1] above appropriately protective risk-based Alevels@ (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	Yes	No	?	Rationale / Key Contaminants
Groundwater	**X**			Groundwater monitoring./ Volatile Organic Contaminants (VOCs, SVOCs) and Metals
Air (indoors)[2]	**X**			Only Building 55 is currently occupied*
Surface Soil (e.g., <2 ft)	**X**			Soil sampling / VOCs, SVOCs, and metals have been detected at various areas throughout the facility.
Surface Water		**X**		See Surface water data show no contamination of VOCs, SVOCs or Mercury (2006 Report).
Sediment	**X**			Several locations along Fishkill Creek have contaminated sediments (May 1997 Report)
Subsurf. Soil (e.g., >2 ft)	**X**			See discussion below and figures.
Air (outdoors)	**X**			There are some VOCs but only toluene and trichlorofluoromethane exceeds the median range

[1] AContamination@ and Acontaminated@ describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based Alevels@ (for the media, that identify risks within the acceptable risk range).

[2] Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

of values for outdoor air listed in NYSDOH=s database. However, they do not exceed the 95th percentile value (February 2001 Report).

_____ If no (for all media) - skip to #6, and enter AYE,@ status code after providing or citing appropriate Alevels,@ and referencing sufficient supporting documentation demonstrating that these Alevels@ are not exceeded.

__X__ If yes (for any media) - continue after identifying key contaminants in each Acontaminated@ medium, citing appropriate Alevels@ (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

_____ If unknown (for any media) - skip to #6 and enter AIN@ status code.

Rationale and Reference(s):

Facility and Release Sources

The release history of the site can be divided into two areas: North (the Main Facility or Main Plant Area) and South (The Recreation Area and Tank Farm) of the Fishkill Creek. Below is a brief description of the units that comprised the Recreation Area:

Container Disposal Site: This area was believed to be one of the oldest disposal areas in the Recreation Area. Disposal activities may have been initiated in the 1930s although the actual disposal period is unknown. The container disposal site reportedly received empty containers and trash through direct dumping onto the ground. The container disposal site covers an area of approximately 0.6 acres and is located in a low-lying portion of the site. Disposal Pit: The disposal pit was reportedly used for the disposal of liquids. The exact method of disposal remains unknown.
Old Sludge Lagoon: This area was used for the disposal of sludges generated at the waste water treatment plant located on the Research Center portion of the property. The sludge lagoon was unlined and surrounded by an earthen berm. Disposal at this site was conducted from 1959 through 1963.
Chemical Burial Sites: Three separate areas were utilized for the disposal of laboratory wastes at various times. Chemical burial site No. 1 was utilized from July 1961 through March 1966. Chemical burial site No. 2 was utilized from June 1966 through June 1970. Chemical burial site No. 3 was utilized from September 1970 through November 1977.
New Sludge Lagoon: The New Sludge Lagoon was located just south of the tennis courts and east of the access road. It was an unlined lagoon used for the disposal of industrial wastewater treatment plant sludge during the early 1980's. (Reference 1**B** 1985 Report prepared by the O.H. Materials Company)

Site remediation was conducted by O.H. Materials Corporation from August 1985 through June 1986. During this time period, all waste materials and soils exhibiting visual staining or detectable volatile organic compounds (VOCs) were excavated. A total of approximately 25,300 tons of waste, soil, sludge, and stabilizing materials (sand, kiln dust, and lime) were transported to properly permitted treatment or disposal facilities. Approximately 455,000 gallons of waste liquids (primarily decontamination wash water and extracted groundwater) were also properly transported and disposed of.

Monitoring wells DL-1,2,3,4,5 and 6 were placed just down gradient of the lagoon after its remediation. Prior to termination of monitoring these wells, groundwater from the wells met the groundwater standard, and the wells were removed in January, 2000, in accordance with NYSDEC's approval of a reduction in the monitoring well network for the site.

Extensive documentation supporting the investigation and closure of the former disposal site was previously submitted to the NYSDEC. The removal of additional material (solid waste only) within Trash Pile C and replacement with clean fill was performed by the IT Corporation in the fall of 2000. Groundwater monitoring has continued since 1987 in accordance with conditions specified in the facility's Hazardous Waste Management Permit. A reduction in the monitoring well network for the site, including the abandonment of several wells no longer needed for the monitoring program, was completed in early 2000 in accordance with a plan approved by the NYSDEC.

The Main Facility has had a number of releases or spills over the years. Some of these were spills of petroleum products and occurred in only a single instance at a particular location. These spills were generally of only small quantities and usually consisted of petroleum products. They were cleaned up under the direction of the DEC Spills program shortly after each one occurred.

Other areas of the Main Facility have had recurring releases due to the large number of transfer operations of petroleum products and a wide variety of chemicals used in the research laboratories at the site:

Buildings 83 and Building 58: These drum storage areas are located on a cliff overlooking Fishkill Creek and has a number of SVOCs and some petroleum products in the soils beneath the buildings and the dirt road between them. Contamination is believed to have occurred during the transfer of waste oil to drums at Building 83 and the leaking of drums while being stored in Building 58. These buildings have roofs but no walls and are unoccupied.

The Building 55 area includes Building 55 (offices), Building 56 (garage), Building 29 (mechanical laboratory, fuel/lubricant testing), Building 26 (Boiler House), Building 44 (electrical switch house), Building 30 (Health and Safety) and Building 65 (laboratory).

Chlorobenzene was identified in a sample from the north side of Building 55 (850 ppb). PAHs were also found in a majority of the samples with concentrations exceeding NYSDEC soil clean up levels. PAHs were the only SVOCs identified with exceeding concentrations in areas located south of Building 55.

SVOCs detected in the Building 55 overburden groundwater included isomers of dichlorobenzene. VOCs with concentrations exceeding the criteria in the groundwater sample from overburden wells north of Building 55 include benzene, chlorobenzene, ethylbenzene, cis-1,2 dichloroethylene, 2-butanone, trichloroethylene and vinyl chloride.

The Building 45 area includes the lower section of the Site along Fishkill Creek downstream of the dam. Texaco operations in this area included the sanitary and industrial wastewater treatment plants.
Surface soils in the area generally consist of fill ranging in thickness from 1 to 14 feet. Soil samples had metals concentrations in exceedance of the NYSDEC recommended soil clean up objectives (RSCOs). Metals with exceedance included arsenic, barium, beryllium, calcium, chromium, copper, iron, magnesium, nickel, zinc and mercury. The higher metals concentrations correspond with the extensive fill areas.

VOCs detected in the Building 45 wells above the criteria included benzene, chlorobenzene, chloroform, 1,1-DCA, cis-1,2dichloroethylene, PCE, TCE, VC and xylene. SVOCs with concentrations above the criteria included include BEHP, naphthalene, 1,2dichlorobenzene and 1,4dichlorobenzene. Metals detected in the groundwater samples from bedrock wells included aluminum, iron, magnesium and sodium.

Potential Threats and Contaminants:

Contaminants

Sitewide, VOCs, SVOCs and to a lesser degree, metals, have been found in and around the buildings north of Fishkill Creek.

Potential Threats from Contaminated Groundwater

Groundwater Hydrology

Groundwater at the Main Facility occurs in the overburden and in the bedrock. Groundwater is present in the fill as well as the native deposits but is not found across the entirety of the Site. Overburden groundwater flow is generally toward Fishkill Creek.
In most area of the Site where overburden groundwater is present, there was no confining layer and bedrock and overburden groundwater are connected.

Bedrock groundwater is found in bedrock fractures in the limestone and in the Granitic bedrock. The bedrock groundwater elevation data indicates that the driving head is to the southwest. There appears to be a downward hydraulic gradient at the site. With this downward gradient and the presence of fractured bedrock within the upper portion of the bedrock formation, there is the potential for migration of soluble constituents from the overburden groundwater to the bedrock.

Groundwater at the Tank Farm occurs at an elevation ranging from 196.07 feet to 200.97 feet. Local groundwater flow was determined to be toward Fishkill Creek (north-northwest) under a hydraulic gradient of approximately 0.028 feet/foot. The Tank Farm exhibited a silt/clay layer at approximately 12 to 13 feet below ground surface (bgs). No impacts to bedrock groundwater have been observed, based on drilling programs conducted within the Tank Farm. The impacts to groundwater are restricted to overburden water. Contaminates at this location range up to 1605 ppb total VOCs and 301 ppb SVOCs and will be addressed in the Corrective Measures Study.

Many of the Buildings in the Main Facility have some levels of contaminants in nearby groundwater monitoring wells. Building 55 has a well adjacent to its north wall with 683 ppb of total VOCs. The Building 58/83 area has VOCs of up to 428 ppb and SVOCs of up to 421 ppb. The rest of the site (Building 51 and the Northeast Area) contain similar hot spots of up to 30,771 ppb of VOCs near Building 41 and 51, and up to 219 ppb of SVOCs in the same location.

In general the areas of contamination are located in Buildings that are close to Fishkill Creek. Those Buildings that are closer to Old Glenham Road (furthest north from the Fishkill) have contaminant levels that are mostly undetectable.

A total of 69 wells were slug tested in existing and new monitoring wells. Calculated hydraulic conductivity values were found to range from a high of 2x10-1 cm/second to a low of 2x10-6 cm/second.

Groundwater in the Recreation Area has low levels of VOCs (under 10 bbp) and these numbers are expected to decrease even further over the next few years.

Potential Threats from Air Contamination (Indoor).

Several buildings are situated over contaminated groundwater or soil. It is possible that VOCs or SVOCs may migrate up though the floors of the buildings and collect in the basement or the first floor of the buildings.

In response to the high levels of groundwater contamination under several Buildings at this site, Texaco submitted a Report on Indoor Air Quality Sampling Results to the NYS DEC on March 8, 2001. The air in Buildings 51, 67, 68 and 74 were tested and a variety of VOCs, including acetone, trichlorofluoromethane, methylene chloride, trichlorotrifluoroethane, benzene, carbon tetrachloride, toluene and xylene were present, but at levels that were below or within the median range of values listed in NYSDOH's air quality database. These buildings have since been made uninhabitable. (See Reference 2)

The Chevron/Texaco site has VOCs and SVOCs in the soil around various buildings and the groundwater beneath the buildings. The only building (aside from the guard shack at the front gate) where anyone is still working is Building 55. VOCs at about 850 ppb have been found in the groundwater adjacent to the buildings. It is possible that indoor air in the building is contaminated. (See Reference 5)

Potential Threats from Contaminated Soil (Surface and Subsurface)

There is a significant amount of contaminated soil at this site. Almost all of the contaminated soil is currently covered by roads, parking lots or buildings and a typical worker would not encounter any contaminated soil.

Although on-site industrial worker and construction worker receptors may contact surface soil, all onsite activities for these people will be governed by the use of PPE as outlined in the project specific Health and Safety Plan, which will effectively eliminate any potential exposure.

The site is fenced and guarded, which prevents uninvited pedestrians from trespassing onto the site.

Potential Threats from Water

Groundwater Risk:

The groundwater is contaminated but is not used for drinking purposes at this site or in this city.

Surface Water Risk:

On December 19, 2006 Chevron/Texaco submitted a report on the surface water quality of the Fishkill Creek. NYSDEC agreed with Chevron/Texaco that the data clearly showed that there was no detectable VOC or

SVOC contamination in the creek from any source and only slightly elevated levels of iron and aluminum that were not related to operations at the former Chevron/Texaco facility. (See Reference 4)

Fishkill Creek is the dominant surface water body near the Site. The surface water elevations of the Creek are controlled by dams. The upper dam (Texaco Dam) is located on the Site between Building 6 on the north side and the west end of the Tank Farm area. The elevation of the top of the dam is reported to be 196.0 Texaco Site Datum (Texaco 1998). The height of the dam is approximately 22 feet. Downstream of the Site, Fishkill Creek passes through the City of Beacon and discharges to the Hudson River. Based on the mapping provided by the Federal Emergency Management Agency, the majority of the main facility is located within a Zone C area (minimal potential for flooding).

This Creek is hard to access and if it is accessed, the physical dangers of the cliffs and dams constitute a far greater risk than any contaminants that may be found in the surface water. (See Figure 2)

Potential Threats from Sediment

Sediments

In May 1997 sediment in the Fishkill Creek were tested for VOCs and SVOCs. Most of the eight sediment samples had VOC concentrations below detection levels except for one sample near Building 45 which had a total of 50 ppb and one sediment sample near Building 58 which had 7 ppb of total VOCs.
With regard to SVOCs, all eight samples contained some SVOCs, the results ranged from 88 to 13,939 ppb Total SVOC.

The only contaminants of concern that slightly exceeded NYSDEC guidance values for sediment were PAHs found in the two samples taken immediately downstream of the rail road bridge downstream of the Main Facility Plant.

Human exposure to these contaminants is prevented due to the topography (steep cliffs) and dense vegetation along the banks of the Fishkill. Just obtaining these samples took considerable effort on the part of the project consultants. (See Reference 3)

Potential Threats from Air Contamination

Outdoor Air:

Laboratory analyses of air samples from three outdoor ambient air locations detected several VOCs but most were below or within the median range of values listed in NYSDOH's air quality database. Only toluene and trichlorofluoromethane exceeded the median range of values for outdoor air listed in NYSDOH's database, but did not exceed the 95th percentile value.

Indoor Air:

Only Building 55 is currently occupied, and that only by one full time worker. No indoor air tests have been conducted for this building and it is not known if there is a potential problem at this time. Tests for contaminants will be conducted in the near future. On-site vapor intrusion exposure is being presently investigated at the national level. Pending that investigation and publication of final guidance/regulation, EPA will certify that all other exposures scenarios are either under control or there is not a complete exposure pathway. If tests at Building 55 indicate that a potential pathway exists, a new building will house the worker or a vapor mitigation plan will be implemented.

As a general conclusion, while there are contaminated media at this facility, the fact that it is closed, fenced and guarded. Therefore, there is not a complete pathway for human exposure at this time.

References:

1) 1985 Report prepared by the O.H. Materials Company
2) 2001 Report on Indoor Air Quality Sampling Results for Buildings 51, 67, 68 and 74
3) 1997 Report on Stream Sediment/ Water Quality Investigation
4) 2006 Fishkill Creek Sampling Report
5) June 2007 Sitewide RCRA Facility Investigation

Site Responsibility and Legal Instrument:

Permit Status:

Chevron/Texaco's 373 Permit expired on March 29, 1996 and is currently operating under a SAPA extension until a new permit covering corrective action is issued or until corrective action is completed at the site.

3. Are there **complete pathways** between Acontamination@ and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

	Potential **Human Receptors** (Under Current Conditions)						
AContaminated@ Media	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food[3]
Groundwater	No	No	No	No	No	No	No
Air (indoors)	No	Yes	No	No	No	No	No
Soil (surface, e.g., <2 ft)	No	No	No	No	No	No	No
~~Surface Water~~							
Sediment	No	No	No	No	No	No	No
Soil (subsurface e.g., >2 ft)	No	No	No	No	No	No	No
~~Air (outdoors)~~							

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors= spaces for Media which are not Acontaminated@) as identified in #2 above.

2. enter Ayes@ or Ano@ for potential Acompleteness@ under each AContaminated@ Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential AContaminated@ Media - Human Receptor combinations (Pathways) do not have check spaces (A___@). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

__X__ If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter @YE@ status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).

_____ If yes (pathways are complete for any AContaminated@ Media - Human Receptor combination) - continue after providing supporting explanation.

_____ If unknown (for any AContaminated@ Media - Human Receptor combination) - skip to #6 and enter AIN@ status code

[3] Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

Rationale and Reference(s):

Groundwater

Groundwater is not used for human consumption at this site or in this municipality.

Air (indoor)

The facility operations have been discontinued but there are two buildings that are occupied regularly. Bldg. 55 (the former Safety Bldg.) is currently used as an office location for the Facility Superintendent. The Superintendent is typically on site from 6 AM to 2 PM on most weeks from Monday through Friday. The other building in regular use is Bldg. 89, the small guard house at the West Gate. The Chevron security guard is generally on site from 12 PM to 8 PM every week from Monday through Friday. Other than that, there is only occasional use of any of the other buildings.

Although no indoor air tests have been conducted for Building 55 it is not known if there is a potential problem at this time. Tests for contaminants will be conducted in the near future. On-site vapor intrusion exposure is being presently investigated at the national level. Pending that investigation and publication of final guidance/regulation, EPA will certify that all other exposures scenarios are either under control or there is no complete exposure pathway. If tests at Building 55 indicate that a potential pathway exists, a new building will house the worker or a vapor mitigation plan will be implemented.

Soil (Surface and Subsurface)

The soil and subsoil in the Main Facility Area and the Tank farm is contaminated with VOCs, SVOCs and metals. It is likely that as the buildings of the site are demolished, additional area of contamination will be discovered. The only time human exposure could occur is during remedial activities or building demolition. Under such conditions, the workers would be in PPE as specified by the Health and Safety Plan written for that project.

Surface Water

Fishkill Creek is hard to access and if it is accessed, the physical dangers of the cliffs and dams constitute a far greater risk than any contaminants that may be found in the surface water.

Sediment

There are some low concentrations of VOCs and SVOCs in the sediments of Fishkill Creek. Since the Creek is hard to access and the facility is closed, it is unlikely that the single regular worker will be exposed to the material. As further corrective measures are conducted at the site, some workers may be exposed to contaminated sediments, however, worker safety will be addressed by the Health and Safety section of the project work plan.

Sewers

The sewers have been examined, remediated and closed. As further corrective measures are conducted at the site, some workers may be exposed to contaminated sediments, however, worker safety will be addressed by the Health and Safety section of the project work plan.

4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be A**significant**@[4] (i.e., potentially Aunacceptable@ because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable Alevels@ (used to identify the Acontamination@); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable Alevels@) could result in greater than acceptable risks)?

   __X*__ If no (exposures can not be reasonably expected to be significant (i.e., potentially Aunacceptable@) for any complete exposure pathway) - skip to #6 and enter AYE@ status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to Acontamination@ (identified in #3) are not expected to be Asignificant.@

   ____ If yes (exposures could be reasonably expected to be Asignificant@ (i.e., potentially Aunacceptable@) for any complete exposure pathway) - continue after providing a description (of each potentially Aunacceptable@ exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to Acontamination@ (identified in #3) are not expected to be Asignificant.@

   _____ If unknown (for any complete pathway) - skip to #6 and enter AIN@ status code

Rationale and Reference(s):

*** <u>Air (indoors)</u>**

EPA=s Office of Solid Waste and Emergency Response (OSWER) issued "Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils" in November 2002. Among the exposure scenarios discussed in this draft guidance, EPA addressed vapor intrusion into non-residential buildings, including those in occupational settings that may be regulated by the Occupational Health and Safety Administration (OSHA). Specifically, in the Introduction of the Draft Guidance, under Section I.D. ("What Is The Scope of The Guidance?"), OSWER states that "OSHA and EPA have generally agreed that OSHA will take the lead in addressing occupational exposures", and that "**Y**EPA does not expect this guidance to be used for settings that are primarily occupational." OSWER reaffirmed this position in a fact sheet titled "Vapor Intrusion and RCRA Corrective Action Environmental Indicators (EI)," issued June 2003.

However, at this time, OSWER is reevaluating the guidance for the vapor intrusion to indoor air pathway in occupational settings. The matter is currently under internal review. OSWER plans to issue updated recommendations on when and how the Draft Guidance should be used. recommendations on when and how the Draft Guidance should be used.

[4] If there is any question on whether the identified exposures are Asignificant@ (i.e., potentially Aunacceptable@) consult a human health Risk Assessment specialist with appropriate education, training and experience.

5 Can the Asignificant@ **exposures** (identified in #4) be shown to be within **acceptable** limits?

_____ If yes (all Asignificant@ exposures have been shown to be within acceptable limits) - continue and enter AYE@ after summarizing and referencing documentation justifying why all Asignificant@ exposures to Acontamination@ are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

___ If no (there are current exposures that can be reasonably expected to be Aunacceptable@)- continue and enter ANO@ status code after providing a description of each potentially Aunacceptable@ exposure.

_____ If unknown (for any potentially Aunacceptable@ exposure) - continue and enter AIN@ status code

Rationale and Reference(s):

6. Check the appropriate RCRAInfo status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

__**X**__ YE - Yes, ACurrent Human Exposures Under Control@ has been verified. Based on a review of the information contained in this EI Determination, ACurrent Human Exposures@ are expected to be AUnder Control@ at the Chevron/Texaco facility, EPA ID # NYD091894899, located at Old Glenham Road, Glenham, NY under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

_____ NO - ACurrent Human Exposures@ are NOT AUnder Control.@

_____ IN - More information is needed to make a determination.

Date: September 29, 2007

Wilfredo Palomino
New York Section
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Date: September 29, 2007

James Reidy
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Date: September 29, 2007

Adolph Everett, Chief
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Date: September 29, 2007

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Locations where References may be found:

New York State Department of Environmental Conservation, Central Office
Division of Solid and Hazardous Materials
625 Broadway 9h Floor
Albany, New York 12233-7258

Contact telephone and e-mail numbers:

NYSDEC
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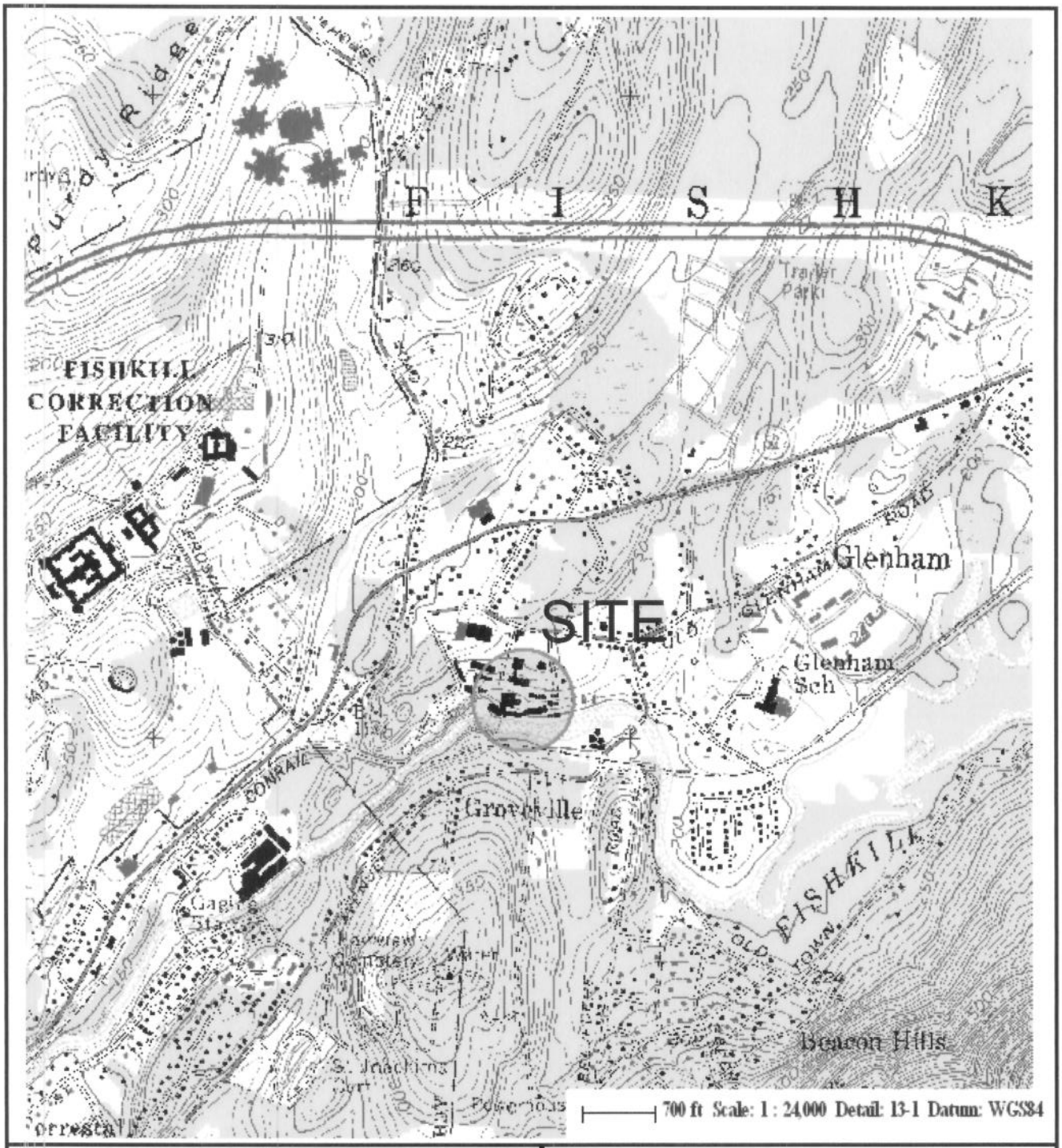
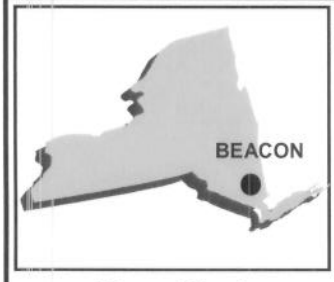
FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.





New York
Vicinity Map

LATITUDE: N41° 31' 04"
LONGITUDE: W73° 56' 14"

SOURCE: DeLORME 3-D TOPOQUAD PROGRAM

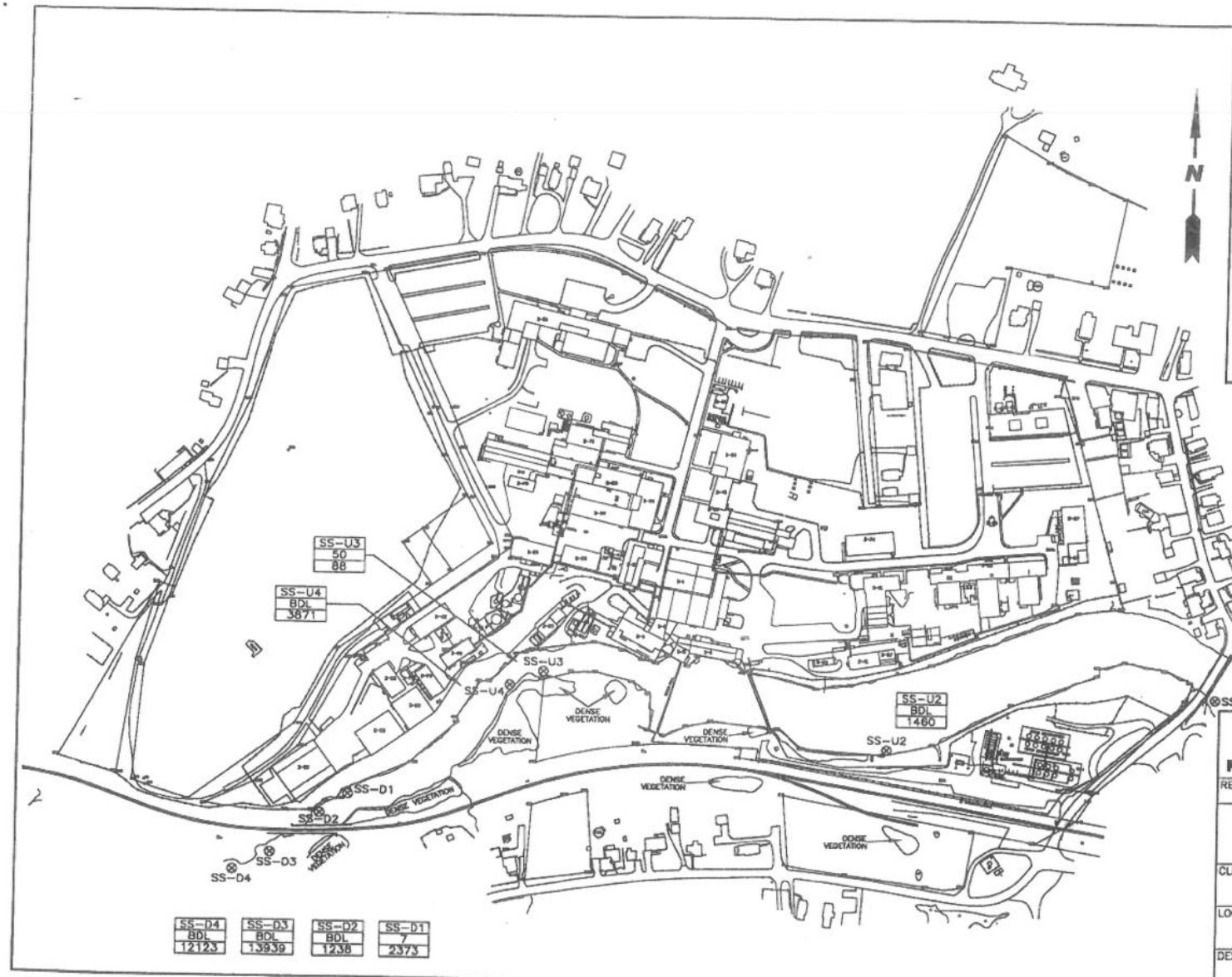
FIGURE 1

SITEWIDE RCRA FACILITY INVESTIGATION
FORMER TEXACO RESEARCH FACILITY
BEACON, NEW YORK

SITE LOCATION MAP

PARSONS
290 ELWOOD DAVIS ROAD, SUITE 312, LIVERPOOL, NY 13088 PHONE: (315) 451-9560

P:\CHEVRON\BEACON\442862\SWSI\ENGR\GRAPHICS\SITEMAP.PPT



LEGEND

- STREAM SEDIMENT/ WATER SAMPLING LOCATION
- PROPERTY LINE
- GUARD RAIL
- WATER LINE
- FENCE LINE

DATA BOX LEGEND

SS-D1	STREAM SEDIMENT SAMPLE NAME
BDL	TOTAL VOCs (ug/kg)
BDL	TOTAL SVOCs (ug/kg)
BDL	BELOW-DETECTION LIMIT

SAMPLING DATE: MAY 12, 1997

BASE MAP SOURCE: TEXACO

0 250 500
SCALE FEET

FLUOR DANIEL GTI
1245 KINGS ROAD
SCHENECTADY, NY 12303
(518) 370-5831

REV. NO.:	DRAWING DATE:	ACAD FILE:
	7/17/97	SSMAY97

CMS STREAM SEDIMENT SAMPLING RESULTS

CLIENT:		PM:
	TEXACO INC.	RAH
LOCATION:		SM:
	BEACON, NEW YORK	---

DESIGNED:	DETAILED:	PROJECT NO.:	FIGURE:
RAH	MJS	01110-0198	2