Appendix D
Phase I Site Reconnaissance, Field Notes, Photographs, and Photo Logs
Part 2

- 3-16-10 Bowen Engineering - S105870328
- 3-16-10 Cedar Ave Recycling and Transfer Station - S105678089
- 3-16-10 Chestnut Avenue Sanitary Landfill - S106487474
- 3-16-10 CL Bryant - S106248109
- 3-16-10 Professional Asbestos Removal Corp - 1000228675
- 3-16-10 Sunland Refining Corp - S102860851
- 3-16-10 Western Farm Service - S103659204
- 3-16-10 Wilbur & Ellis - S109422410
- 3-16-10 Wilbur-Ellis (aka AMC) - 1004439539

- 3-17-10 Corcoran Sanitary Landfill - S102360526
- 3-17-10 Handford Muni SWDF - S101049400
- 3-17-10 Hanford Facility - S105256701
- 3-17-10 Pond Mercantile - S104234191
- 3-17-10 Puregro-Corcoran - 1000202637
- 3-18-10 Brown and Bryant - S100833336

HST PHASE I ENVIRONMENTAL SITE ASSESSMENT

Name of Site: BOWEN ENG. + ENVIRONMENTAL

EDR ID Number: S105870328

Date of Inspection: 3/16/10

Requires Follow-up Site Visit: Yes (No)

Requires Agency File Review: Yes (No)

Site Inspector: FRANK GEGUNDE

URS Office: FRESNO

Please take digital photographs during the reconnaissance. Please catalog the pictures - a sheet is attached for your use.

1. **Facility name** and address including zip code and county

BOWEN ENG. + ENVIRONMENTAL
4664 S. CEDAR AVE
FRESNO, CA
County: FRESNO

2. **Site layout**: Prepare or obtain a sketch of site if needed.

Site Acreage: ~10 AC

Site Buildings:

Name	Number of stories	Dimensions	Square Footage	Year Built
OFFICE / SHOP	2	60 X 125	~7,500	?

3. The **general topography** of the site area is:

slightly / (relatively) / very (flat) rolling / hilly

with surface drainage appearing to flow to the N S (E) W

4. Are the following located on or **adjacent to the subject site**?

Surface water: NO
Wetlands: NO
Floodplains: NO
Parklands: NO
Sensitive habitats: NO

5. Please list **current visible onsite activities**:

DEMOLITION EQUIPMENT STORAGE + MAINTENANCE; CONCRETE AND CONSTRUCTION DEBRIS RECYCLING

Is equipment washed onsite? YES
Is maintenance conducted onsite? If so, what types? YES - EQUIPMENT SERVICING
Is fueling conducted onsite? YES - AST (NO USTS PER ERIK BOWEN)

6. **Site Area:**
General site area is (circle) residential (+/-) commercial light industrial heavy industrial rural
other_____

Identify adjacent roadways and properties. Indicate any current surrounding land uses that have the potential to impact the site.

North ABANDONED STORAGE SHEDS & AGRICULTURE (FIELDS) ROW CROPS

South SINGLE FAMILY RURAL RESIDENCE; ROW CROPS AGRICULTURE; RURAL RESIDENTIAL

East BNSF RAILROAD; AGRICULTURE - ROW CROPS

West SOUTH CEDAR AVE; RURAL RESIDENTIAL; AGRICULTURE (ROW CROPS)

7. Observations of potential environmental issues: (stressed vegetation, indications of liquid or solid waste dumping or disposal, discolored flowing or ponded waters, evidence of groundwater monitoring wells or remedial activities, abnormal odors, the presence of unnatural fill material or soil grading):
NONE; CONSTRUCTION DEBRIS (I.E. CONCRETE, BRICKS; ASPHALT TILE) IS RECYCLED & STORED ONSITE)

8. **Utilities-list all visable utility services (power lines, meters etc)**
Electric Service by: PG&E
Gas Service by: THE GAS COMPANY
Water Service by: CITY OF FRESNO
Wastewater Service by: CITY OF FRESNO
Steam by: NONE

9. **Onsite Aboveground and Underground Storage Tanks**; complete the table below. Be sure to include the tank locations on the site sketch!

Are there any ASTs/USTs, active or inactive, present at the site currently? YES, formerly? UNKNOWN

UST (U) or AST (A)	Tank Size	Contents	Installation Date	Tank Material	Visible Staining	Registration	Active Removed Closed or
U / A	SEVERAL IMMATURE ASTS (5)				Y / N	Y / N	MAY BE OTHERS
U / A	ERIK BOWEN STATED THAT THERE				Y / N	Y / N	
U / A	NEVER HAVE BEEN ANY USTS				Y / N	Y / N	

U / A _____ _____ _____ _____ Y / N Y / N _____

10. What is the condition of the tanks as indicated by visual inspection etc.? OLD - RUSTY (5)
SMALLER TANKS ARE IN GOOD CONDITION

11. Have there been any releases? UNKNOWN

To whom were the releases reported? N/A

What is status of release investigation? N/A

12. **ASBESTOS**

Is there known asbestos onsite? **Yes** **No** **Unknown**

Was an asbestos survey conducted and what were the results? _____

13. **HAZARDOUS CHEMICALS**

Does the site or facility currently store or use hazardous chemicals? **Yes** **No** **Unknown**

Indicate **primary** chemicals, raw materials and petroleum used, generated stored, released,

Chemical	Quantity	Location/Bldg. ID	Condition	Pathways
THE SITE OPERATES A FULL-SERVICE SHOP FOR MAINTAINING COMPANY TRUCKS & EQUIPMENT; LIKELY STORES GREASE OIL, SOLVENTS, PAINT?,				

14. **SOLID WASTE GENERATION**

Does the site or facility currently generate solid wastes? **Yes** **No** **Unknown**

General Plant Trash consists of (Circle): Office Paper; Breakroom Waste; General Packaging; Restroom Wastepaper;

Other: COMPANY IS LISTED IN TEDR AS A HAZARDOUS WASTE TRANSPORTER (HWT)

Accumulated in: compactor? Dumpster? located: N S E W of the building.

Hauled off by: IWS

15. **HAZARDOUS WASTES**

Does the site or facility currently generate hazardous wastes? **Yes** **No** **Unknown**

Where are the wastes disposed? OTHER THAN USED MOTOR OIL

Were any wastes observed that might meet the definition of hazardous waste but have not been tested to be hazardous or are not handled as hazardous? NO if so, describe:

16. **PCBs** NONE

Identify the presence of PCB contamination including the presence of potential PCB electrical or other equipment.

Equipment	Owner	Condition	PCB-content	Serial #	Pathways

17. **DRINKING WATER**

What is source of drinking water at the site? CITY OF FRESNO

What is source of process water for the site? n/a or N/A

What is the source of drinking water for surrounding properties? CITY OF FRESNO

Are there any wells known to exist at the site? NO, Describe

If wells are used for drinking water at the site, obtain water quality data N/A

Describe any onsite surface water resources: none or NONE

18. **WASTEWATER**

Does the site or facility currently generate wastewater? **Yes** **No** **Unknown**

Describe the type and volume of wastewater that is generated (sanitary, non-contact, process, etc.)

OFFICE REST ROOM

Is any wastewater treatment conducted (e.g. pH adjustment, equalization, grease trap, DAF, etc.? NO

if so, describe:

Where is wastewater discharged:			Does a Permit Exist?	
Surface water discharges	**Yes**	**No**	**Yes**	**No**
Land application discharges	**Yes**	**No**	**Yes**	**No**
Deep well injection	**Yes**	**No**	**Yes**	**No**
Discharge to municipal system	**Yes**	**No**	**Yes**	**No**
Impoundments	**Yes**	**No**	**Yes**	**No**
Septic systems	**Yes**	**No**	**Yes**	**No**

describe as appropriate

Any evidence of groundwater wells, cisterns, or septic tanks? if so describe:
NONE

19. **STORMWATER**

Describe how stormwater is managed: INFILTRATION OR RUNOFF TO ONSITE RETENTION BASIN

Does the stormwater flow to a combined sewer? NO

Does water run-off from neighboring facilities and have potential to impact this facility? NO

20. **WETLANDS**

Any known/delineated wetlands at the site? NO, Indicate size, location (indicate on sketch), and description.

21. **AIR EMISSIONS**

Does the site or facility currently generate Air Emissions? **Yes** (**No**) **Unknown**

Describe each piece of fuel burning equipment at the facility (e.g. manufacturer, heat input capacity, HP, installation date, etc.)

22. **GROUNDWATER**

Is there known groundwater contamination at this facility? NO

If yes, list the contaminants:

Are there groundwater monitoring wells at this facility? NO

Where are these wells located?

Are regulatory agencies involved with monitoring? N/A

Status of investigation/remediation program?

23. **SPILLS**

Has this site or facility ~~had~~ spills or leaks of hazardous wastes, PCBs, hazardous substances, or chemicals used at the facility? **Yes** **No** **Unknown**

Complete the following information for spills which have occurred:

Date	*Substance Spilled*	*Spill Location*	*Cleaned Up*	*Reported*
_____	_____	_____	**Yes No**	**Yes No**
_____	_____	_____	**Yes No**	**Yes No**

24. **USED OIL**

Does this facility generate used oil? YES

Describe the types and sources of used oil generated: USED MOTOR OIL FROM COMPANY TRUCKS + EQUIPMENT

Are all containers of used oil labeled accordingly? YES

Describe how and where used oil is stored and handled:

DRUMS ON PALLETS

25. **OTHER**

Are any pesticides or herbicides stored or used onsite? **Yes** **No** **Unknown**

Are lead acid batteries stored or used onsite? **Yes** **No** **Unknown**

Is there ozone depleting substances (e.g., freons) containing equipment at the facility? **Yes** **No** **Unknown**

Is it maintained by onsite personnel? **Yes** **No** **Unknown** N/A

Are fork lift trucks or any other hydraulic equipment maintained onsite? **Yes** **No** **Unknown**

Are there any hydraulic lifts onsite? **Yes** **No** **Unknown**

SITE RECYCLES USED CONCRETE, ASPHALT, AND OTHER CONSTRUCTION MATERIAL FOR RESALE AS ROAD BASE MATERIAL; PRIMARY BUSINESS IS DEMOLITION WORK AND WASTE TRANSPORT

ERIK BOWEN TOOK US THROUGH THE SITE AND ANSWERED QUESTIONS, HOWEVER WOULD NOT ALLOW PHOTOGRAPHS

4664 S Cedar Ave, Fresno, CA 93725
S Cedar Ave
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Google

Bowen Engineering and Environmental

Established October 1992

Bowen Engineering and Environmental is a Fresno-based, second generation family business. Bowen provides the highest level of service and commits to operating at the highest levels of safety.

About Us

Bowen Engineering and Environmental

General Engineering Contracting

4664 S. Cedar Avenue. Fresno, CA 93725

(559) 233-7464 FAX (559) 233-7468

Customer satisfaction speaks volumes.

Nothing creates success like satisfied customers. Our client list includes many companies, numerous municipalities and governmental agencies as well as small to mid-sized local firms. Both large and small companies alike have come to trust Bowen for the successful completion of their projects.

Built on our reputation.

Bowen Engineering & Environmental has built a solid reputation by displaying our superior quality of work and dedication to meeting customers needs. Through these efforts our clients have helped us grow. With a combined 50 years of industry experience, our management team has built the company around superior work and will stand behind this work to solidify our reputation.

We welcome the opportunity to discuss our scope of specialized services and Bowen's individualized planning process with you. Contact us to learn more about how Bowen Engineering & Environmental can best serve your needs.

Demolition & Environmental Services

Demolition Development Services:

- Asset Recovery
- Concrete Cutting and Removal
- Dismantlement and Salvage
- Material Recycling
- Selective Interior Demolition
- Storage tank Removal

Bowen Engineering and Environmental provide four different sectors of demolition: **residential, commercial, industrial, and public**.

Environmental Services:

- Site Investigation
- Contaminated Soil Disposal
- Lead PCB
- Asbestos Removal
- Contaminated Soil Disposal
- Risk Assessment
- Pollution Prevention
- Remediation

FA02	BOWEN ENGINEERING & ENVIRONM	4664 S	CEDAR	FRESNO	93725	BOWEN	HAZARDOUS WASTE GENERATOR (CESQG)
FA02	BOWEN ENGINEERING & ENVIRONM	4664 S	CEDAR	FRESNO	93725	BOWEN	SOLID WASTE NON-FACILITY/NON-OPERATION
FA02	BOWEN ENGINEERING & ENVIRONM	4664 S	CEDAR	FRESNO	93725	BOWEN	AUTO REPAIR/MAINTENANCE MODEL PLAN

Demolition
Asbestos Removal
D.O.S.H. 579

Hazardous Waste
Removal
Lic. #656741

BOWEN ENGINEERING AND ENVIRONMENTAL

ERIK BOWEN

(559) 233-7464
(559) 233-7468 Fax
(559) 246-0719 Cell

4664 S. Cedar
Fresno CA 93725

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Bowen Engineering & Environmental 4664 S Cedar, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No. **1**

Direction Photo Taken:

Aerial view; north at the top frame

Description:

View of the long rectangular site. CAHST proposed alignments (in red) and the BNSF Railroad locate on the east end. Cedar Avenue is located on the west end.

NOTE: Google Earth Imagery dated 9/25/09; Google Earth website accessed 3/16/10. See NOTE below.

Photo No. **2**

Direction Photo Taken:

Aerial view; north at the top of frame

Description:

West end of the site along Cedar Avenue. Prominent feature is the remodeled office and shop building. Note empty ASTs and irrigation ditch along the north boundary of the site, and the stormwater retention basin southeast of the shop.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Bowen Engineering & Environmental 4664 S Cedar, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
3

Direction Photo Taken:

Aerial view; north at the top frame

Description:

Central site area. Equipment storage and concrete/asphalt recycling.

Photo No.
4

Direction Photo Taken:

Aerial view; north at the top of frame

Description:

East end of the site. Proposed CAHST alignments (red) and the BNSF tracks are visible to the right of the frame. Concrete/asphalt and used brick recycling.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Bowen Engineering & Environmental 4664 S Cedar, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
5

Direction Photo Taken:

Aerial view; north at the top of frame

Description:

Waste and debris from offsite demolition work and some green waste (top of frame).

Photo No.
6

Direction Photo Taken:

Aerial view; north at the top of frame

Description:

Recycled asphalt and bricks at the east end of the site. (CAHST in red)

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Bowen Engineering & Environmental 4664 S Cedar, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
7

Direction Photo Taken:

Aerial view; north at the top of frame

Description:

Recycled concrete, used bricks, scrap metal located near the center of the site.

Photo No.
8

Direction Photo Taken:

Aerial view; north at the top frame

Description:

Stored and recycled materials, used bricks, and scrap metal located near the center of the site.

URS | HMM | ARUP — California High-Speed Train	FLY CALIFORNIA — Without ever leaving the ground.	**PHOTOGRAPHIC LOG**
California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Bowen Engineering & Environmental 4664 S Cedar, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No. **9**	
Direction Photo Taken: Aerial view; north at the top of frame	
Description: Stormwater retention basin located on the south side of the site, southeast of the shop. A storm drain was observed near the center of the site and it appears that all stormwater from the site discharges to the basin.	

NOTE: The property owners allowed access to the site and answered questions regarding the site history and site activities, however would **not** allow photographs. Google Earth website accessed 3/16/10; Google Earth Imagery dated 9/25/09.

HST PHASE I ENVIRONMENTAL SITE ASSESSMENT

Name of Site: CEDAR AVENUE RECYCLING + TRANSFER **EDR ID Number:** S105678089

Date of Inspection: 3/16/10 **Requires Follow-up Site Visit:** Yes (No)

Requires Agency File Review: Yes (No)

Site Inspector: FRANK GEGUNDE **URS Office:**

Please take digital photographs during the reconnaissance. Please catalog the pictures - a sheet is attached for your use.

1. **Facility name** and address including zip code and county

CEDAR AVENUE RECYCLING AND TRANSFER STATION
3457 S. CEDAR AVE
FRESNO, CA 93725
County: FRESNO

2. **Site layout**: Prepare or obtain a sketch of site if needed.

Site Acreage: ~14.5 ACRES (RECYCLE + TRANSFER STATION)
~27.8 AC (CONCRETE & ASPHALT RECYCLING SITE)
~ 39 AC (FORMER LANDFILL SITE)

Site Buildings:

Name	Number of stories	Dimensions	Square Footage	Year Built
1 OFFICE BUILDING	2	54 x 40	~4,300	?
4 SHOP BUILDINGS - RECYCLE SORTING				
2 STORAGE CONTAINERS				

3. The **general topography** of the site area is:

slightly / (relatively) / very (flat) / rolling / hilly

with surface drainage appearing to flow to the N (S) E (W)

4. Are the following located on or **adjacent to the subject site**?

Surface water: No
Wetlands: No
Floodplains: No
Parklands: No
Sensitive habitats: No

5. Please list **current visible onsite activities**:

SITE RECIEVES AND PROCESSES NON-HAZARDOUS WASTE FROM SEVERAL SOURCES (E.G. CITY OF FRESNO); RECYCLING PROCESSING SOLID WASTE IS LOADED FOR TRANSPORT TO LANDFILL

Is equipment washed onsite? YES
Is maintenance conducted onsite? If so, what types? YES - PROCESS EQUIPMENT
Is fueling conducted onsite? YES - NO USTS

6. **Site Area:**
General site area is (circle) residential (commercial) light industrial heavy industrial rural
other_____

Identify adjacent roadways and properties. Indicate any current surrounding land uses that have the potential to impact the site.

North NURSERY; COMMERCIAL

South USED CONCRETE AND ASPHALT RECYCLER (PART OF LARGER CARTS SITE); AG LAND

East CEDAR AVENUE; COMMERCIAL

West ORANGE AVENUE LANDFILL (CLOSED 2007); PART OF LARGER CARTS SITE; ORANGE AVE - AG LAND

7. Observations of potential environmental issues: (stressed vegetation, indications of liquid or solid waste dumping or disposal, discolored flowing or ponded waters, evidence of groundwater monitoring wells or remedial activities, abnormal odors, the presence of unnatural fill material or soil grading):

IT'S A GARBAGE DUMP!

8. **Utilities-list all visable utility services (power lines, meters etc)**

Electric Service by: PG&E

Gas Service by: THE GAS COMPANY

Water Service by: CITY OF FRESNO

Wastewater Service by: CITY OF FRESNO

Steam by: NONE

9. **Onsite Aboveground and Underground Storage Tanks**; complete the table below. Be sure to include the tank locations on the site sketch!

Are there any ASTs/USTs, active or inactive, present at the site currently? YES, formerly? NO

ACCORDING TO JUSTIN RAYMOND THERE UST'S ONSITE

UST (U) or AST (A)	Tank Size	Contents	Installation Date	Tank Material	Visible Staining	Registration	Active Removed Closed or
U / A	UNKNOWN	NUMBER + SIZES			Y / N	Y / N	
U / A					Y / N	Y / N	
U / A					Y / N	Y / N	

U / A _____ _____ _____ _____ Y / N Y / N _____

10. What is the condition of the tanks as indicated by visual inspection etc.? UNKNOWN

11. Have there been any releases? UNKNOWN - NONE REPORTED

To whom were the releases reported? N/A

What is status of release investigation? N/A

12. **ASBESTOS**

Is there known asbestos onsite? **Yes** **No** **Unknown**

Was an asbestos survey conducted and what were the results? No

13. **HAZARDOUS CHEMICALS**

Does the site or facility currently store or use hazardous chemicals? **Yes** **No** **Unknown**

Indicate **primary** chemicals, raw materials and petroleum used, generated stored, released,

Chemical	Quantity	Location/Bldg. ID	Condition	Pathways
PER JUSTIN RAYMOND				

14. **SOLID WASTE GENERATION**

Does the site or facility currently generate solid wastes? **Yes** **No** **Unknown**

General Plant Trash consists of (Circle): Office Paper; Breakroom Waste; General Packaging; Restroom Wastepaper;

Other: IT'S A DUMP, RECYCLE AND TRANSFER STATION

Accumulated in: compactor? Dumpster? located: N S E W of the building.

Hauled off by: TO SOLID WASTE LAND FILL

15. **HAZARDOUS WASTES**

Does the site or facility currently generate hazardous wastes? **Yes** **No** **Unknown**

Where are the wastes disposed? UNKNOWN - FSO COUNTY CUPA

Were any wastes observed that might meet the definition of hazardous waste but have not been tested to be hazardous or are not handled as hazardous? NO if so, describe:

16. **PCBs** NO OBSERVED

Identify the presence of PCB contamination including the presence of potential PCB electrical or other equipment.

Equipment	Owner	Condition	PCB-content	Serial #	Pathways

17. **DRINKING WATER**

What is source of drinking water at the site? CITY OF FRESNO

What is source of process water for the site? n/a or N/A

What is the source of drinking water for surrounding properties? CITY OF FRESNO

Are there any wells known to exist at the site? NO, Describe

If wells are used for drinking water at the site, obtain water quality data N/A

Describe any onsite surface water resources: none or NONE

18. **WASTEWATER**

Does the site or facility currently generate wastewater? **Yes** **No** **Unknown**

Describe the type and volume of wastewater that is generated (sanitary, non-contact, process, etc.)

Is any wastewater treatment conducted (e.g. pH adjustment, equalization, grease trap, DAF, etc.? NONE

if so, describe:

Where is wastewater discharged:			Does a Permit Exist?	
Surface water discharges	**Yes**	**No**	**Yes**	**No**
Land application discharges	**Yes**	**No**	**Yes**	**No**
Deep well injection	**Yes**	**No**	**Yes**	**No**
Discharge to municipal system	**Yes**	**No**	**Yes**	**No**
Impoundments	**Yes**	**No**	**Yes**	**No**
Septic systems	**Yes**	**No**	**Yes**	**No**

describe as appropriate

Any evidence of groundwater wells, cisterns, or septic tanks? if so describe:

NONE

19. **STORMWATER**

Describe how stormwater is managed: INFILTRATION; SHEET RUNOFF SOUTH & WEST

Does the stormwater flow to a combined sewer? NO

Does water run-off from neighboring facilities and have potential to impact this facility? NO

20. **WETLANDS**

Any known/delineated wetlands at the site? NO, Indicate size, location (indicate on sketch), and description.

21. **AIR EMISSIONS**

Does the site or facility currently generate Air Emissions? (Yes) **No** **Unknown**

Describe each piece of fuel burning equipment at the facility (e.g. manufacturer, heat input capacity, HP, installation date, etc.)

TRANSFER STATION EQUIPMENT; DEBRIS SEPARATOR
OTHER STATIONARY EQUIPMENT

22. **GROUNDWATER**

Is there known groundwater contamination at this facility? NO

If yes, list the contaminants:

Are there groundwater monitoring wells at this facility? YES – FOR ADJACENT ORANGE AVENUE DISPOSAL SITE

Where are these wells located?

Are regulatory agencies involved with monitoring? YES – RWQCB

Status of investigation/remediation program? ONGOING – SEVERAL INVESTIGATIONS INVOLVING THE LANDFILL TO THE WEST

23. **SPILLS**

Has this site or facility had spills or leaks of hazardous wastes, PCBs, hazardous substances, or chemicals used at the facility? **Yes** **No** **Unknown**

Complete the following information for spills which have occurred:

Date	*Substance Spilled*	*Spill Location*	*Cleaned Up*	*Reported*
_____	_____	_____	**Yes** **No**	**Yes** **No**
_____	_____	_____	**Yes** **No**	**Yes** **No**

24. **USED OIL**

Does this facility generate used oil? YES

Describe the types and sources of used oil generated: USED MOTOR OIL FROM WASTE PROCESSING EQUIPMENT

Are all containers of used oil labeled accordingly? YES

Describe how and where used oil is stored and handled:

SHOP AREA - REMOVED BY RECYCLER

25. **OTHER**

Are any pesticides or herbicides stored or used onsite? **Yes** **No** **Unknown**

Are lead acid batteries stored or used onsite? **Yes** **No** **Unknown**

Is there ozone depleting substances (e.g., freons) containing equipment at the facility? **Yes** **No** **Unknown**

Is it maintained by onsite personnel? **Yes** **No** **Unknown** N/A

Are fork lift trucks or any other hydraulic equipment maintained onsite? **Yes** **No** **Unknown**

Are there any hydraulic lifts onsite? **Yes** **No** **Unknown**

3457 S Cedar Ave, Fresno, CA 93725
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FA02	CEDAR AVE RECYCLING &	3457	S	CEDAR	FRESNO	93726	CAGLIA	SOLID WASTE FACILITY-FULL PERMIT
FA02	CEDAR AVE RECYCLING &	3457	S	CEDAR	FRESNO	93726	CAGLIA	AUTO REPAIR/MAINTENANCE MODEL PLAN
FA02	CEDAR AVE RECYCLING &	3457	S	CEDAR	FRESNO	93726	CAGLIA	HAZARDOUS WASTE GENERATOR (CESQG)

About C.A.R.T.S.

Cedar Ave. Recycling and Transfer station is a limited partnership established in 2003...

Serving City of Fresno and the Local Surrounding Area

Located at 3457 S. Cedar Ave Fresno, CA 93725

Our History – Three Generations of Serving the City of Fresno

Orange Avenue Disposal Company has been continuously providing solid waste and recycling services to the City of Fresno for over 64 years. Orange Avenue Disposal Company, Inc. (OAD) operates the Cedar Avenue Recycling and Transfer Station (CARTS) Facility and the CARTS Concrete and Asphalt Recycling Center. Orange Avenue Disposal Company, Inc. is authorized to conduct business in the State of California and has a current City of Fresno Business License and a Full Solid Waste Facility Permit from the California Integrated Waste Management Board.

Frank S. Caglia, the patriarch of the Caglia family, was born in 1912 in the humble village of Muschito, Italy. Frank, the oldest of 12 children, migrated with his parents and his family by way of Ellis Island and settled in Fresno. Years of hard work and community service has allowed the Caglia Family to become an integral part of the development of Fresno. Fresno has provided a home for three generations and several businesses that take pride in the strong work ethic and high level of integrity that has set the Caglia's businesses apart over the past seven decades.

Electric Motor Shop
When Frank was a young man he began working at the Electric Motor Shop. Early on, he began buying ownership interests in the business. Originally started in 1913, Electric Motor Shop today is one of the Valley's premier electrical contractors and electrical supply wholesale houses. No one would have predicted this small business would someday develop into a well-known, highly respected Fresno landmark. Richard Caglia, Frank's son, has been the General Manager of Electric Motor Shop for 30 years and two of his sons work for him today. Frank's daughter, Sally, has been the Corporate Secretary for the last 20 years. The Electric Motor Shop has also been fortunate enough to do business with the City of Fresno over the years.

Warnors Theatre
This Fresno landmark originally opened as the Pantages Theatre in 1928. With its Italian Renaissance style, it is one of the most ornate buildings of its kind in Fresno. It has been home to some of the most incredible Broadway shows Fresno has ever seen. The Warnors almost met the wrecking ball in 1973 but was saved and lovingly restored back to its original splendor by Frank Caglia. Today, the Warnors Theatre sponsors many community events and fundraising activities championed by the Caglia's for the good of Fresno.

Gateway to Fresno – Van Ness Arch

Community redevelopment and community pride are Caglia trademarks. Frank has restored the gateway to downtown Fresno with classic signage and enduring hope. Bringing downtown Fresno back to life is now the passion for Richard Caglia II, Frank's grandson, and the third generation of Caglias to promote Fresno's welfare.

Orange Avenue Landfill

Frank's father-in-law bought the old City Landfill from Rossi Disposal Service in 1939. In 1941, Frank purchased the landfill and created Orange Avenue Disposal to perform operations. Long before recycling was in vogue, Frank and his seven children, Joe, Richard, Sally, Vince, Mary Ann, Bernadette, and Rosemary were taught the value of resource conservation at an early age. Frank became quite a collector and has a warehouse of antiques and props that have been used at numerous community functions over the years. The landfill was transformed from a typical dump at the time into a landfill with all the necessary permits. Orange Avenue Disposal has always participated in 'Keeping America Beautiful' and offered services to keep Fresno clean as part of the 'Fresno Beautiful' campaign in the sixties. Years before Earth Day, Orange Avenue Disposal provided free admission on April 22, 1967 for one truck load of litter to be dumped. Frank's eldest son, Joe, ran the landfill in the seventies and eighties. Vince Caglia has been the General Manager for the last 17 year s.

The landfill will be closing soon and Frank's dream of having the top of the landfill a vista point for the people of Fresno is becoming a reality. The closure plans are being prepared for the landfill, but the area will bring new life to the community by offering a park-like setting and picnic grounds overlooking downtown Fresno and the surroundings. Sally Caglia-Martinez will be presenting plans to the City soon to host functions on top of the closed landfill.

Industrial Waste & Salvage

Joe Caglia started Industrial Waste & Salvage in 1971 to collect construction and demolition materials and commercial waste to be recycled or disposed at Orange Avenue Landfill. Vince has expanded operations to include additional roll-off trucks, front-end loaders for commercial material collection, and automated residential trucks. IWS will be bringing their material to the CARTS Facility for recycling. IWS has been servicing the City of Clovis commercial recyclables for over 14 years.

Cedar Avenue Recycling and Transfer Station

The CARTS Facility represents the next generation of solid waste and recycling facilities. Frank took over the old City Landfill with such an entrepreneurial fervor and strong conservation ethics that the landfill will have maintained capacity for 90 years before it closes in 2007 due to his aggressive salvaging and recycling. Nathan Caglia, Frank's grandson, is the General Manager of OAD Recycling Center. Richard Caglia II is the Director of Corporate Affairs. The next generation of Caglias looks forward to providing the same entrepreneurial spirit at the CARTS Facility and the CARTS Recycling Center where 65% of all material will be recycled, and where landfills may not be needed in the future.

Orange Avenue Disposal Company, Inc. has been involved with all aspects of solid waste management and recycling including collection, hauling, processing, marketing and disposal as highlighted below:

Operation	Years	Business Function
Orange Avenue Landfill	64 years	· Disposal of non-hazardous solid waste · Salvaging of metals and recyclables · Reuse of materials · Marketing metals and recyclables
OAD Resource Recovery Operations	64 years	· Processing and recycling of construction and demolition materials · Processing and recycling of commercial waste · Marketing of metal, wood chips, baled cardboard, and recyclables
Industrial Waste & Salvage	32 years	· Collection and transportation of non-hazardous commercial and industrial wastes · Collection and transportation of recyclables · Residential collection
CARTS Concrete and Asphalt Recycling Center	14 years	· Processing and recycling of asphalt and concrete · Marketing of CALTRANS Class 2 specifications base rock
Cedar Avenue Recycling and Transfer Station	4 years	· Processing commercial materials · Processing C&D materials, self-haul materials, and Operation Clean-up materials · Transferring solid waste to a permitted landfill · Sub-contracting the transportation of solid wastes

Orange Avenue Disposal Company, Inc., together with CARTS Recycling Center and Industrial Waste & Salvage and Cedar Avenue Recycling & Transfer Station L.P. employs 117 individuals from the community. The Electric Motor Shop employs another 124 people. There is little turnover and much mutual respect among the staff members.

ZERO WASTE SOLUTIONS

Justin Raymond
ROUTE SUPERVISOR

RECYCLING - C & D
SOLID WASTE

3457 S. Cedar Avenue • Fresno, California 93725
Email: justinr@cartsinc.net
(559) 233-1158 ext. 16 • Fax (559) 441-4140 • Cell (559) 994-4553

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Cedar Avenue Recycling and Transfer Station (CARTS) 3457 S Cedar, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
1

Direction Photo Taken:

Looking southwest

Description:

Cedar Avenue Recycling and Transfer Station (CARTS).

Photo No.
2

Direction Photo Taken:

Looking west

Description:

Site entrance, office, scale house, scales, former Orange Avenue Landfill, closed in 2007, is visible in the background.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Cedar Avenue Recycling and Transfer Station (CARTS) 3457 S Cedar, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No. **3**

Direction Photo Taken:

Looking northwest

Description:

Office, scale house, and scales.

Photo No. **4**

Direction Photo Taken:

Looking southwest

Description:

Sorting building and recycle center.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Cedar Avenue Recycling and Transfer Station (CARTS) 3457 S Cedar, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
5

Direction Photo Taken:

Looking south

Description:

Container maintenance shop in the southeast corner of the site.

Photo No.
6

Direction Photo Taken:

Looking northwest

Description:

CARTS Scales.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Cedar Avenue Recycling and Transfer Station (CARTS) 3457 S Cedar, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
7

Direction Photo Taken:

Looking west

Description:

Standard refuse is sorted and loaded for transport to an offsite landfill at this transfer station. The former Orange Avenue Landfill site in the background has been closed since 2007.

Photo No.
8

Direction Photo Taken:

Looking north

Description:

CARTS also operates a concrete and asphalt recycling facility on the site adjacent to the transfer station and recycling center.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Cedar Avenue Recycling and Transfer Station (CARTS) 3457 S Cedar, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
9

Direction Photo Taken:

Looking west

Description:

Scale house and scales at the concrete and asphalt and recycling facility.

Photo No.
10

Direction Photo Taken:

Looking southwest

Description:

Former Orange Avenue Landfill located west of CARTS, closed in 2007, still has soil and groundwater impact issues.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Cedar Avenue Recycling and Transfer Station (CARTS) 3457 S Cedar, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
11

Direction Photo Taken:

Looking east

Description:

Former Orange Avenue Landfill site is closed for business.

Photo No.
12

Direction Photo Taken:

Looking northeast

Description:

Former Orange Avenue Landfill site shipping and receiving area. Note ASTs. Site reportedly had leaking USTs and other groundwater contamination issues.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Cedar Avenue Recycling and Transfer Station (CARTS) 3457 S Cedar, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
13

Direction Photo Taken:

Looking northeast

Description:

Much of the former Orange Avenue site is used by CARTS for storage.

HST PHASE I ENVIRONMENTAL SITE ASSESSMENT

Name of Site: CHESTNUT AVE SANITARY LANDFILL **EDR ID Number:** S106497474

Date of Inspection: 3/16/10 **Requires Follow-up Site Visit:** Yes (No)

Requires Agency File Review: (Yes) No

Site Inspector: FRANK GEQUINDE **URS Office:** FRESNO

Please take digital photographs during the reconnaissance. Please catalog the pictures - a sheet is attached for your use.

1. **Facility name** and address including zip code and county

CHESTNUT AVE SANITARY LANDFILL
12825 S. CHESTNUT AVE
FRESNO, CA
County: FRESNO

2. **Site layout**: Prepare or obtain a sketch of site if needed.

Site Acreage: ~42.5 AC

Site Buildings:

Name	Number of stories	Dimensions	Square Footage	Year Built
CONTROL BUILDING	1	24 x 28	672	?
SMALL MOBILE OFFICE TRAILER				

3. The **general topography** of the site area is:

slightly / (relatively) / very flat / rolling / (hilly)

with surface drainage appearing to flow to the N S E W

SITE RUNOFF IS COLLECTED IN DRAINS AND APPEARS TO FLOW TO THE EAST

4. Are the following located on or **adjacent to the subject site**?

Surface water: NO

Wetlands: NO

Floodplains: NO } INFILTRATION & PERCOLATION PONDS USED BY NEARBY

Parklands: NO WETLANDS LOCATED TO THE NORTH

Sensitive habitats: NO

5. Please list **current visible onsite activities**:

SVE, LANDFILL GAS TREATMENT SYSTEM

Is equipment washed onsite? NO
Is maintenance conducted onsite? If so, what types? NO
Is fueling conducted onsite? NO

6. **Site Area:**
General site area is (circle) residential commercial light industrial heavy industrial rural
other

Identify adjacent roadways and properties. Indicate any current surrounding land uses that have the potential to impact the site.

North INFILTRATION AND EVAPORATION PONDS FOR VIE-DEL PROCESSING PLANT; AG FIELDS & FARMING; BNSF RR

South VINYARD; MT VIEW AVE; ORCHARD

East CHESTNUT AVE.; VACANT; BNSF RR

West VINYARD

7. Observations of potential environmental issues: (stressed vegetation, indications of liquid or solid waste dumping or disposal, discolored flowing or ponded waters, evidence of groundwater monitoring wells or remedial activities, abnormal odors, the presence of unnatural fill material or soil grading):

SVE SYSTEM

8. **Utilities-list all visable utility services (power lines, meters etc)**

Electric Service by: PG&E

Gas Service by: NONE OBSERVED

Water Service by: NONE OBSERVED

Wastewater Service by: NONE

Steam by: NONE

9. **Onsite Aboveground and Underground Storage Tanks**; complete the table below. Be sure to include the tank locations on the site sketch!

Are there any ASTs USTs, active or inactive, present at the site currently? YES, formerly? UNK

UST (U) or AST (A)	Tank Size	Contents	Installation Date	Tank Material	Visible Staining	Registration	Active Removed Closed or
U / A	UNKNOWN SIZE AND USE; APPEARS				Y / N	Y / N	
U / A	TO BE USED IN CONNECTION WITH				Y / N	Y / N	
U / A	THE SVE SYSTEM LOCATED AT THE N/W CORNER OF THE SITE				Y / N	Y / N	

U / A _____ _____ _____ _____ Y / N Y / N _____

10. What is the condition of the tanks as indicated by visual inspection etc.? GOOD

11. Have there been any releases? UNKNOWN

To whom were the releases reported? N/A

What is status of release investigation? N/A

12. **ASBESTOS**

Is there known asbestos onsite? **Yes** **No** **Unknown**

Was an asbestos survey conducted and what were the results? No

13. **HAZARDOUS CHEMICALS**

Does the site or facility currently store or use hazardous chemicals? **Yes** **No** **Unknown**

Indicate **primary** chemicals, raw materials and petroleum used, generated stored, released,

Chemical	Quantity	Location/Bldg. ID	Condition	Pathways

14. **SOLID WASTE GENERATION**

Does the site or facility currently generate solid wastes? **Yes** **No** **Unknown**

General Plant Trash consists of (Circle): Office Paper; Breakroom Waste; General Packaging; Restroom Wastepaper;

Other:_____

Accumulated in: compactor? Dumpster? located: N S E W of the building.

Hauled off by:_____

15. **HAZARDOUS WASTES**

Does the site or facility currently generate hazardous wastes? **Yes** **No** **Unknown**

Where are the wastes disposed? _____

Were any wastes observed that might meet the definition of hazardous waste but have not been tested to be hazardous or are not handled as hazardous? _____ if so, describe:

16. **PCBs**

Identify the presence of PCB contamination including the presence of potential PCB electrical or other equipment.

Equipment	Owner	Condition	PCB-content	Serial #	Pathways
POLE-MOUNTED TRANSFORMER LOCATED ON THE WEST SIDE OF THE SITE (SERVICES SVE SYSTEM); POLE-MOUNTED TRANSFORMER ON THE EAST SIDE OF SITE (SERVICES R/R CROSSING)					

17. **DRINKING WATER**

What is source of drinking water at the site? NONE OBSERVED

What is source of process water for the site? n/a or N/A

What is the source of drinking water for surrounding properties? WATER SUPPLY WELLS

Are there any wells known to exist at the site? NO, Describe NO WATER SUPPLY WELLS OBSERVED; GW MONITORING WELLS OBSERVED

If wells are used for drinking water at the site, obtain water quality data N/A

Describe any onsite surface water resources: none or NONE

18. **WASTEWATER**

Does the site or facility currently generate wastewater? **Yes** **No** **Unknown**

Describe the type and volume of wastewater that is generated (sanitary, non-contact process, etc.)

MAY GENERATE SOME WATER FROM THE SVE SYSTEM?

Is any wastewater treatment conducted (e.g. pH adjustment, equalization, grease trap, DAF, etc.? UNKNOWN

if so, describe: _____

Where is wastewater discharged:			Does a Permit Exist?	
Surface water discharges	Yes	No	Yes	No
Land application discharges	Yes	No	Yes	No
Deep well injection	Yes	No	Yes	No
Discharge to municipal system	Yes	No	Yes	No
Impoundments	Yes	No	Yes	No
Septic systems	Yes	No	Yes	No

describe as appropriate LARGE (21,000 GALLON) AST LOCATED AT THE SVE SYSTEM - WEST END OF SITE

Any evidence of groundwater wells, cisterns, or septic tanks? if so describe:

YES

19. **STORMWATER**

Describe how stormwater is managed: CAPTURED ONSITE AND APPEARS TO FLOW

Does the stormwater flow to a combined sewer? NO OFFSITE TO THE EAST

Does water run-off from neighboring facilities and have potential to impact this facility? NO

20. **WETLANDS**

Any known/delineated wetlands at the site? NO, Indicate size, location (indicate on sketch), and description.

21. **AIR EMISSIONS**

Does the site or facility currently generate Air Emissions? **Yes** **No** **Unknown**

Describe each piece of fuel burning equipment at the facility (e.g. manufacturer, heat input capacity, HP, installation date, etc.)

SVE SYSTEM SPECS & DETAILS UNKNOWN; UNIT WAS OPERATING AT THE TIME OF THE SITE VISIT

22. **GROUNDWATER**

Is there known groundwater contamination at this facility? YES

If yes, list the contaminants:

UNKNOWN

Are there groundwater monitoring wells at this facility? YES

Where are these wells located?

N/E CORNER COURTSITE - ACROSS TRACKS; S/E CORNER

ONLY WELLS OBSERVED

Are regulatory agencies involved with monitoring? UNKNOWN

Status of investigation/remediation program? SVE SYSTEM OPERATING

23. **SPILLS**

Has this site or facility had spills ~~or leaks~~ of hazardous wastes, PCBs, hazardous substances, or chemicals used at the facility? **Yes** **No** **Unknown**

Complete the following information for spills which have occurred:

Date	*Substance Spilled*	*Spill Location*	*Cleaned Up*	*Reported*
_____	_____	_____	**Yes** **No**	**Yes** **No**
_____	_____	_____	**Yes** **No**	**Yes** **No**

24. **USED OIL**

Does this facility generate used oil? No

Describe the types and sources of used oil generated: _____

Are all containers of used oil labeled accordingly? _____

Describe how and where used oil is stored and handled:

25. **OTHER**

Are any pesticides or herbicides stored or used onsite? **Yes** **No** **Unknown**

Are lead acid batteries stored or used onsite? **Yes** **No** **Unknown**

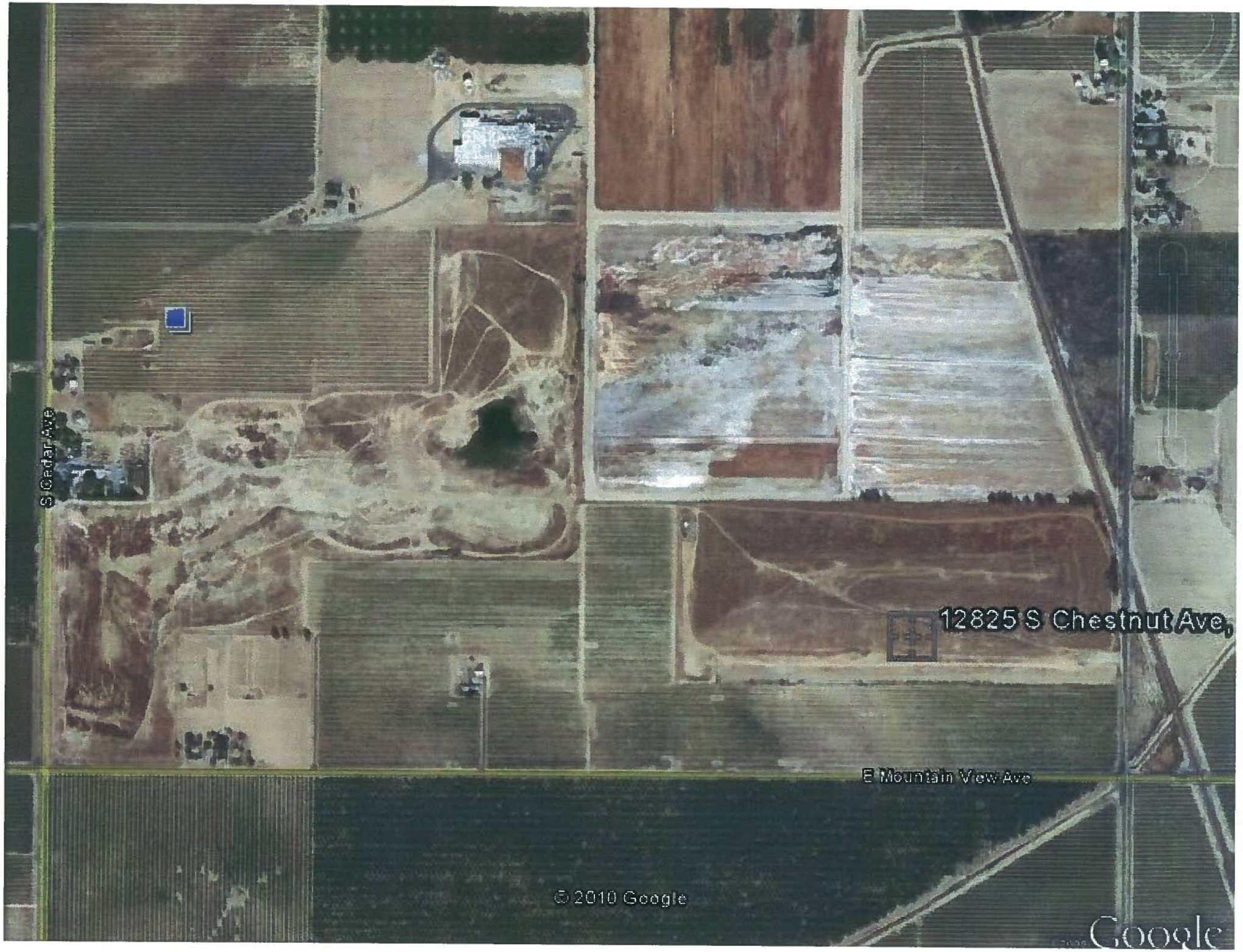
Is there ozone depleting substances (e.g., freons) containing equipment at the facility? **Yes** **No** **Unknown**

Is it maintained by onsite personnel? **Yes** **No** **Unknown** N/A

Are fork lift trucks or any other hydraulic equipment maintained onsite? **Yes** **No** **Unknown**

Are there any hydraulic lifts onsite? **Yes** **No** **Unknown**

SEE ATTACHED DOCS FOR MORE DETAILS


S Cedar Ave
12825 S Chestnut Ave,
E Mountain View Ave
© 2010 Google
Google

Facility Detail Report

CHESTNUT AVENUE LANDFILL
12825 S CHESTNUT AVE
FRESNO, CA 93725
EPA Registry Id: 110002762207

Legend

- Selected Facility
- EPA Facility of Interest
- State/Tribe Facility of Interest

The facility locations displayed come from the FRS Spatial Coordinates tables. They are the best representative locations for the displayed facilities based on the accuracy of the collection method and quality assurance checks performed against each location. The North American Datum of 1983 is used to display all coordinates.

Environmental Interests

Information System	Information System ID	Environmental Interest Type	Data Source	Last Updated Date	Supplemental Environmental Interests:
NATIONAL EMISSIONS INVENTORY	NEICALF7651	CRITERIA AND HAZARDOUS AIR POLLUTANT INVENTORY	NEI		
NATIONAL EMISSIONS INVENTORY	NEICALF7653	CRITERIA AND HAZARDOUS AIR POLLUTANT INVENTORY	NEI		
RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM	CAD981977002	UNSPECIFIED UNIVERSE (INACTIVE)	RCRAINFO	09/15/2000	

Additional EPA Reports: MyEnvironment Enforcement and Compliance Site Demographics Watershed Report

Standard Industrial Classification Codes (SIC)

Data Source	SIC Code	Description	Primary
NEI	4953	REFUSE SYSTEMS	
NEI	4953	REFUSE SYSTEMS	

National Industry Classification System Codes (NAICS)

Data Source	NAICS Code	Description	Primary
NEI	562212	SOLID WASTE LANDFILL.	
NEI	562212	SOLID WASTE LANDFILL.	

Facility Codes and Flags

EPA Region:	09
Duns Number:	617511803
Congressional District Number:	20
Legislative District Number:	5
HUC Code/Watershed:	18030012 / TULARE-BUENA VISTA LAKES
US Mexico Border Indicator:	NO
Federal Facility:	NO
Tribal Land:	NO

Facility Mailing Addresses

Affiliation Type	Delivery Point	City Name	State	Postal Code	Information System
REGULATORY CONTACT	12825 S CHESTNUT AVE	FRESNO	CA	93725	RCRAINFO
OPERATOR	NOT REQUIRED	NOT REQUIRED	ME	99999	RCRAINFO
OWNER	NOT REQUIRED	NOT REQUIRED	ME	99999	RCRAINFO
FACILITY MAILING ADDRESS	12825 S CHESTNUT AVE	FRESNO	CA	93725	RCRAINFO

Alternative Names

Alternative Name	Source of Data
CHATEAU FRESNO LANDFILL	NEI-HAP
THRIFTY BEST RUBBISH SERVICE	RCRAINFO

Contacts

Affiliation Type	Full Name	Office Phone	Information System	Mailing Address
REGULATORY CONTACT	ENVIRONMENTAL MANAGER	2098345991	RCRAINFO	View

Organizations

Affiliation Type	Name	DUNS Number	Information System	Mailing Address
OWNER	SHUBIN STEVEN CO		RCRAINFO	View
OPERATOR	NOT REQUIRED		RCRAINFO	View

STATE OF CALIFORNIA GEORGE DEUKMEJIAN, Governor

CALIFORNIA WASTE MANAGEMENT BOARD
NINTH STREET, SUITE 300
AMENTO, CA 95814

Meeting of the
CALIFORNIA WASTE MANAGEMENT BOARD
Hearing Room
River City Bank Building
1020 Ninth Street, Suite 300
Sacramento, CA 95814

January 13-14, 1986

N O T I C E AND A G E N D A

NOTE: The Board will convene at 10:00 a.m., January 13, 1986. This agenda represents the order in which items are scheduled to be considered. Since the Chairman, however, may change this order, participants and other interested parties are advised to be available during the entire meeting. Items not considered on January 13, may be continued until January 14, beginning at 9:00 a.m.

		MINUTES
1.	APPROVAL OF THE MINUTES OF THE DECEMBER 12-13, 1985 MEETING	5
2.	CONSIDERATION OF FIVE YEAR REVIEW REPORT FOR NEWBY ISLAND LANDFILL PERMIT, SANTA CLARA COUNTY	60
3.	CONSIDERATION OF PLACER COUNTY SOLID WASTE MANAGEMENT PLAN REVISION	15
4.	CONSIDERATION OF MARIPOSA COUNTY SOLID WASTE MANAGEMENT PLAN REVISION	15
5.	STATUS OF DELINQUENT CoSWMPS	15
6.	AWARD OF SURPLUS RECYCLING EQUIPMENT	15
7.	CONSIDERATION OF BOARD ACTION CONCERNING WEST RIVERSIDE LANDFILL, RIVERSIDE COUNTY, ON THE STATE LIST OF NONCOMPLYING WASTE FACILITIES	15
8.	CONSIDERATION OF BOARD ACTION CONCERNING BAKERSFIELD LANDFILL, KERN COUNTY, ON THE STATE LIST OF NON-COMPLYING WASTE FACILITIES	15

9.	CONSIDERATION OF BOARD ACTION CONCERNING CHESTNUT AVENUELANDFILL, FRESNO COUNTY, ON THE STATE LIST OF NONCOMPLYING WASTE FACILITIES	15
10.	CONSIDERATION OF EXPENDITURES FOR LANDFILL GAS CONTROL, MONITORING AND TESTING	30
11.	CONSIDERATION OF REVISION TO CRITERIA FOR MEMBERSHIP ON LEA ADVISORY COUNCIL	15
12.	CONSIDERATION OF ACCEPTANCE OF CONSULTANT STUDY ON CLOSURE/POST CLOSURE	30
13.	UPDATE ON THE STATUS OF THE CH2M HILL CONTRACT	20
14.	UPDATE OF CURRENT LEGISLATION	30
15.	REPORT ON SIGNIFICANT STAFF ACTIVITIES	10
16.	REVIEW OF FUTURE BOARD AGENDA ITEMS	5
17.	OPEN DISCUSSION	
18.	ADJOURNMENT	

NOTE: **The Board may hold a closed session to discuss personnel, as authorized by State Agency Open Meeting Act, Government Code section 11126(a), and litigation, pursuant to the attorney-client privilege, Evidence Code section 950-962, and Government Code section 11126(q).**

For further information contact:
CALIFORNIA WASTE MANAGEMENT BOARD
1020 Ninth Street, Suite 300
Sacramento, CA 95814
(916) 322-3330

California Waste Management Board

Agenda Item #9

January 13-14, 1986

Item:

Consideration of Removal of the Chestnut Avenue Disposal Landfill (Thrifty Best Disposal Landfill) from the State Non-Complying Waste Facilities List.

Facility Facts:

Name:	Chestnut Avenue Disposal Landfill (Thrifty Best Disposal Landfill)
Facility Type:	Class II-2 Landfill
Location:	12825 S. Chestnut Ave., Fresno County
Service Area:	Fresno City and County
Permitted Volume:	100 cu. yards per day
Permitted Acreage:	25 acres
Permitted Waste Types:	Residential, commercial, demolition, tires, debris, dead animals, septic tank pumpings, and sewage sludge
Facility Owner:	William Shubin
Facility Operator:	Mike Shubin
Local Enforcement Agency:	Fresno County Environmental Health System

Background:

On August 23-24, 1984 the California Waste Management Board adopted Resolution #84-77 placing the Chestnut Avenue Disposal Landfill (Thrifty Best Disposal Landfill) on the State List of Non-Complying Waste Facilities. The violation for which this site was placed on the list was:

> Title 14 California Administrative Code, Division 7, Chapter 3, Section 17705 - Gas Control.

In June of 1985, a meeting was held between the LEA and the operator at which the LEA accepted property and easement acquisition, by the operator, as a mitigation measure for methane-gas boundary encroachment. In conjunction with these acquisitions appropriate methane-gas monitoring is to be continued. Currently there are 25 monitoring probes installed at the site. Land within 1000 feet of the site is in vineyard and agriculture. Board staff inspected the site on December 31, 1985 and found it to be in compliance with section 17705.

Recommendation:

Staff recommends that the Board remove the Chestnut Avenue Disposal Landfill (Thrifty Best Disposal Landfill) from the list of non-complying waste facilities.

California Waste Management Board
Resolution #86-4
January 13-14, 1986

Removal of the Chestnut Avenue Disposal Landfill (Thrifty Best Disposal Landfill), Fresno County from the State List of Non-Complying Waste Facilities.

WHEREAS, on August 23-24, 1984 the California Waste Management Board placed the Chestnut Avenue Landfill (Thrifty Best Landfill) on the list of non-complying waste facilities; and

WHEREAS, per Government Code section 66796.39, the site must be in compliance within a maximum of one year from the date of listing or the LEA shall revoke the site's operating permit; and

WHEREAS, The LEA has accepted the acquisition of additional property and easements by the operator as a mitigation method for methane-gas boundary encroachment, and

WHEREAS, on December 31, 1985, Board staff inspected the Chestnut Avenue Disposal Landfill (Thrifty Best Disposal Landfill) and found it to be in compliance with Section 17705;

NOW, THEREFORE, BE IT RESOLVED that the Chief Executive Officer is authorized to remove the Chestnut Avenue Disposal Landfill (Thrifty Best Disposal Landfill) from the state list of non-complying waste facilities.

CERTIFICATION

The undersigned Chief Executive Officer of the California Waste Management Board does hereby certify that the foregoing is a full, true and correct copy of a resolution duly and regularly adopted at a meeting of the California Waste Management Board held on January 13-14, 1986.

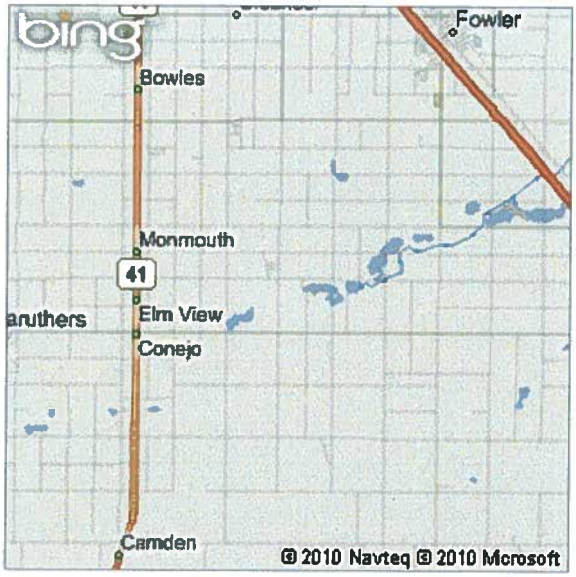
Dated:

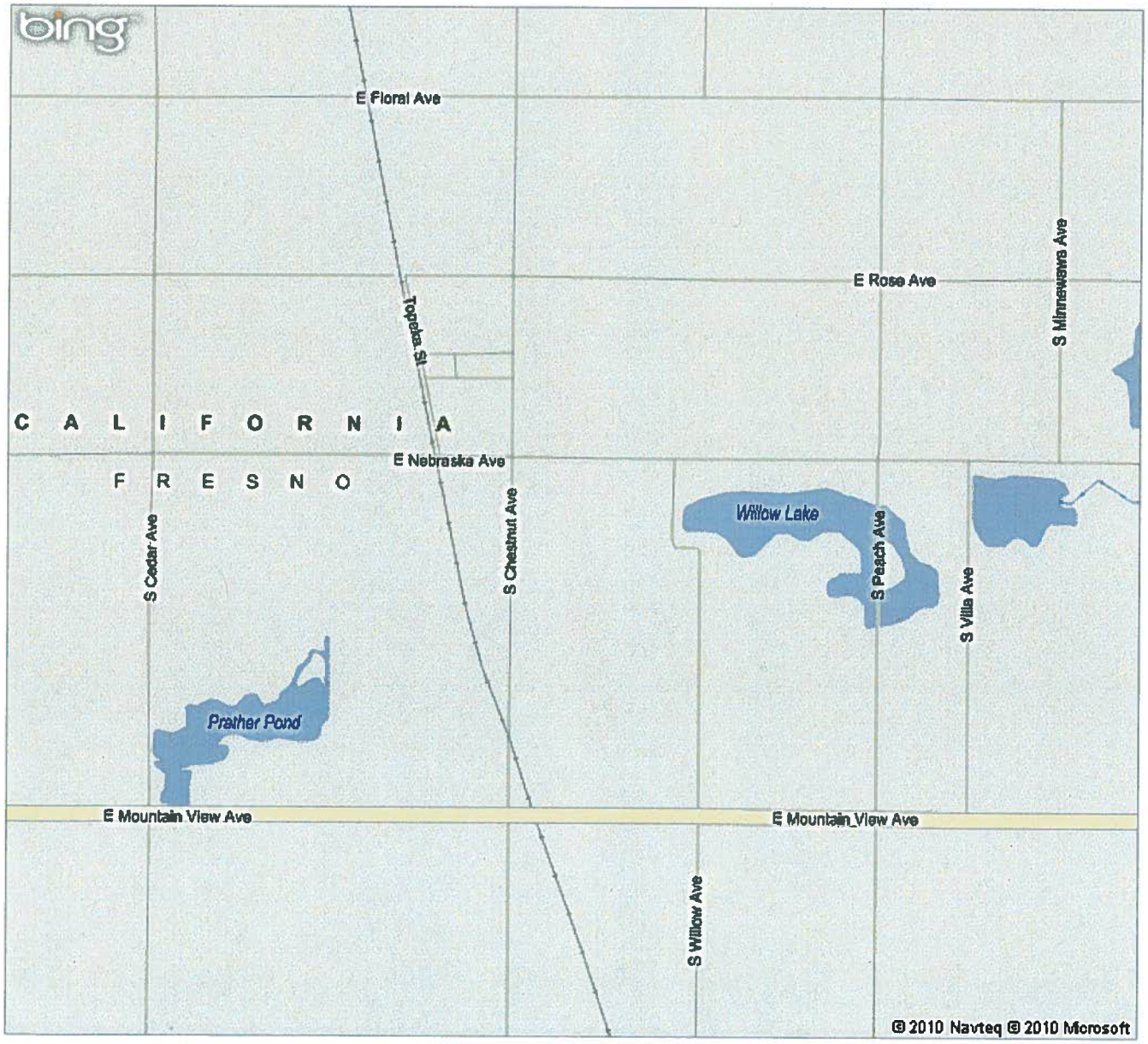
George T. Eowan
Chief Executive Officer

Bing Maps

Chestnut Avenue Landfill
(aka Thrifty Best Landfill) 12825 S
Chestnut Fresno, CA

FREE! Use **Bing 411** to find movies, businesses & more: **800-BING-411**





FA01	CHESTNUT AVE SANITARY	12825 S	CHESTNU	FRESNO	93725	BROWNI	SOLID WASTE FACILITY-CLOSED SITE
FA01	CHESTNUT AVE SANITARY	12825 S	CHESTNU	FRESNO	93725	BROWNI	HAZ MAT DISCLOSURE-BELOW REPORTING QUANT
FA01	CHESTNUT AVE SANITARY	12825 S	CHESTNU	FRESNO	93725	BROWNI	CONTAMINATED SITE - MISC/RWQCB LEAD

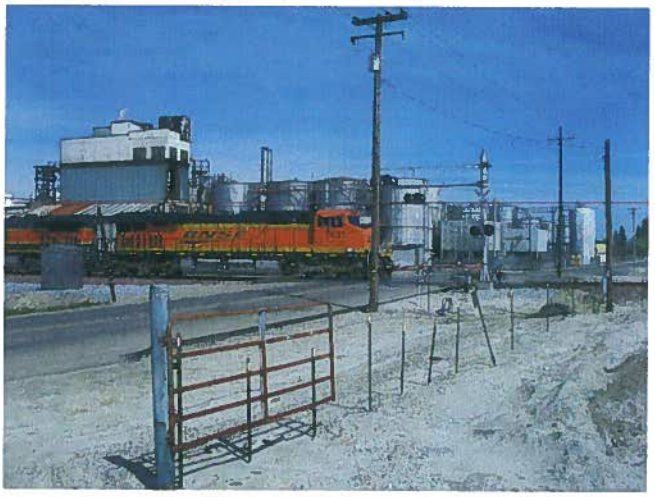
Vie-Del Co.

Address:
11903 S Chestnut Ave.
Fresno, CA 93725
United States
Phone:
(559) 834-2525

Company description

Vie-Del Company is a private company categorized under Fruit Juices: Concentrated, Hot Pack and located in Fresno, CA. Our records show it was founded in 1946 and incorporated in 1991 in Nevada. The company manufactures canned concentrated fruit juices; canned fruits/vegetables, and manufactures wines/brandy/spirits.

This company discharges process wastewater on the site located north of the Chestnut Avenue Landfill site (12825 S Chestnut). The process wastewater is generated at the facility located at Chestnut and Nebraska Avenues.



FA01	VIE-DEL COMPANY #1	11903	S	CHESTNU	FRESNO	93725	VIE-DEL INDUSTRIAL WASTE DISCHARGER
FA01	VIE-DEL COMPANY #1	11903	S	CHESTNU	FRESNO	93725	VIE-DEL UST REMOVAL/CLOSURE W/5 TANKS
FA01	VIE-DEL COMPANY #1	11903	S	CHESTNU	FRESNO	93725	VIE-DEL LARGE HAZARDOUS MATERIALS HANDLER
FA01	VIE-DEL COMPANY #1	11903	S	CHESTNU	FRESNO	93725	VIE-DEL HAZARDOUS WASTE GENERATOR (CESQG)
FA01	VIE-DEL COMPANY #1	11903	S	CHESTNU	FRESNO	93725	VIE-DEL EXTREMELY HAZARDOUS SUBSTANCE HANDLER (E
FA01	VIE-DEL COMPANY #1	11903	S	CHESTNU	FRESNO	93725	VIE-DEL CALARP RMP FACILITY

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Chestnut Avenue Sanitary Landfill 12825 S Chestnut, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
1

Direction Photo Taken:

Looking west

Description:

Entrance to the former landfill scale house and office located near the southeast corner of the landfill. View along the south side of the landfill.

Photo No.
2

Direction Photo Taken:

Looking northwest

Description:

Southeast corner of the landfill. Note the soil gas extraction wells on the horizon of the landfill.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Chestnut Avenue Sanitary Landfill 12825 S Chestnut, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
3

Direction Photo Taken:

Looking northwest

Description:

View of the east end of the landfill along Chestnut Avenue.

Photo No.
4

Direction Photo Taken:

Looking south

Description:

Looking south along the east end of the site. The BNSF tracks cross Chestnut Avenue near the northeast corner of the landfill. Note the groundwater monitoring well in the lower middle of the frame.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Chestnut Avenue Sanitary Landfill 12825 S Chestnut, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
5

Direction Photo Taken:

Looking northeast

Description:

View of the southwest corner of the landfill from Mountain View Avenue.

Photo No.
6

Direction Photo Taken:

Looking east

Description:

View of the northern side of the landfill from the northwest corner.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Chestnut Avenue Sanitary Landfill 12825 S Chestnut, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
7

Direction Photo Taken:

Looking south

Description:

Active soil vapor extraction and treatment system located in the northwest corner of the site.

Photo No.
8

Direction Photo Taken:

Looking west

Description:

The land adjacent north of the landfill site is used for infiltration and evaporation of process waste water discharged by the Vie-Del food processing plant located approximately one mile north of the site.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Chestnut Avenue Sanitary Landfill 12825 S Chestnut, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
9

Direction Photo Taken:

Looking north

Description:

Process waste water flowing from the Vie-Del plant (background) to the land surface infiltration and evaporation site next to the landfill.

HST PHASE I ENVIRONMENTAL SITE ASSESSMENT

Name of Site: CL BRYANT

EDR ID Number: S106248109

Date of Inspection: 3/16/10

Requires Follow-up Site Visit: Yes (No)

Requires Agency File Review: Yes (No)

Site Inspector: FRANK GEGUNDE

URS Office: FRESNO

Please take digital photographs during the reconnaissance. Please catalog the pictures - a sheet is attached for your use.

1. **Facility name** and address including zip code and county

CL BRYANT; AKA UNOCAL BULK PLANT; AKA PACIFIC PRIDE COMMERCIAL FUELING
3220 S. PARKWAY
FRESNO, CA 93722
County: FRESNO

2. **Site layout**: Prepare or obtain a sketch of site if needed.

Site Acreage: ~ 1.6 AC

Site Buildings:

Name	Number of stories	Dimensions	Square Footage	Year Built
OFFICE/WAREHOUSE	1	58 x 62	~ 3000	?
DISPENSER ISLAND	CANOPY	32 x 132	~ 4,200	?

3. The **general topography** of the site area is:

slightly / (relatively) / very (flat) / rolling / hilly

with surface drainage appearing to flow to the N (S) E W

4. Are the following located on or **adjacent to the subject site**? SURFACE RUNOFF IS COLLECTED ONSITE AND DISCHARGE TO A RETENTION BASIN AT THE SOUTH END OF THE SITE

Surface water: NO
Wetlands: NO
Floodplains: NO
Parklands: NO
Sensitive habitats: NO

5. Please list **current visible onsite activities:**

BULK FUEL DISTRIBUTION; WHOLESALE + RETAIL FUEL SALES; BULK FUEL STORAGE

Is equipment washed onsite? NO
Is maintenance conducted onsite? If so, what types? NO
Is fueling conducted onsite? YES

6. **Site Area:**
General site area is (circle) residential (commercial) light industrial heavy industrial rural
other_____

Identify adjacent roadways and properties. Indicate any current surrounding land uses that have the potential to impact the site.

North FUN CARS RV'S SALES; COMMERCIAL

South PARKWAY AVENUE; COMMERCIAL

East US HWY 99; COMMERCIAL

West PARKWAY AVENUE; COMMERCIAL (SPECIALTY STEEL SERVICE CO.; TSE BRAKES, INC.; SAFE-T-CAB)

7. Observations of potential environmental issues: (stressed vegetation, indications of liquid or solid waste dumping or disposal, discolored flowing or ponded waters, evidence of groundwater monitoring wells or remedial activities, abnormal odors, the presence of unnatural fill material or soil grading):

NONE

8. **Utilities-list all visable utility services (power lines, meters etc)**

Electric Service by: PG&E

Gas Service by: THE GAS COMPANY

Water Service by: CITY OF FRESNO

Wastewater Service by: CITY OF FRESNO

Steam by: NONE

9. **Onsite Aboveground and Underground Storage Tanks**; complete the table below. Be sure to include the tank locations on the site sketch!

Are there any ASTs/USTs, active or inactive, present at the site currently? _____, formerly? _____

UST (U) or AST (A)	Tank Size	Contents	Installation Date	Tank Material	Visible Staining	Registration	Active Removed Closed or
(U) / A	5 USTs	FUEL, OIL			Y / (N)	(Y) / N	ACTIVE
U / (A)	6 ASTs	FUEL, OIL, PROPANE			Y / (N)	(Y) / N	ACTIVE
U / A	(10-99 K STORAGE)				Y / N	Y / N	

U / A _____ _____ _____ _____ Y / N Y / N _____

10. What is the condition of the tanks as indicated by visual inspection etc.? GOOD

11. Have there been any releases? NONE OBSERVED OR REPORTED

To whom were the releases reported? N/A

What is status of release investigation? N/A

12. **ASBESTOS**

Is there known asbestos onsite? **Yes** **No** **Unknown**

Was an asbestos survey conducted and what were the results? _____

13. **HAZARDOUS CHEMICALS**

Does the site or facility currently store or use hazardous chemicals? **Yes** **No** **Unknown**

Indicate **primary** chemicals, raw materials and petroleum used, generated stored, released,

Chemical	Quantity	Location/Bldg. ID	Condition	Pathways
DIESEL				
GASOLINE	BASED ON FSO COUNTY CUPA REPORT			
MOTOR OIL				
PROPANE				

14. **SOLID WASTE GENERATION**

Does the site or facility currently generate solid wastes? **Yes** **No** **Unknown**

General Plant Trash consists of (Circle): Office Paper; Breakroom Waste; General Packaging; Restroom Wastepaper;

Other: _____

Accumulated in: compactor? Dumpster? located: N S E W of the building.

Hauled off by: CITY OF FRESNO

15. **HAZARDOUS WASTES**

Does the site or facility currently generate hazardous wastes? **Yes** **No** **Unknown**

Where are the wastes disposed? _____

Were any wastes observed that might meet the definition of hazardous waste but have not been tested to be hazardous or are not handled as hazardous? NO if so, describe:

16. **PCBs**

Identify the presence of PCB contamination including the presence of potential PCB electrical or other equipment.

Equipment	Owner	Condition	PCB-content	Serial #	Pathways
1 POLE-MOUNTED TRANSFORMER LOCATED AT THE N/E CORNER OF THE SITE; 1 POLE-MOUNTED TRANSFORMER LOCATED AT THE EAST SIDE OF THE SITE					

17. **DRINKING WATER**

What is source of drinking water at the site? CITY OF FRESNO

What is source of process water for the site? n/a or N/A

What is the source of drinking water for surrounding properties? CITY OF FRESNO

Are there any wells known to exist at the site? NO, Describe

If wells are used for drinking water at the site, obtain water quality data N/A

Describe any onsite surface water resources: none or NONE

18. **WASTEWATER**

Does the site or facility currently generate wastewater? **Yes** **No** **Unknown**

Describe the type and volume of wastewater that is generated (sanitary, non-contact, process, etc.)

OFFICE RESTROOM

Is any wastewater treatment conducted (e.g. pH adjustment, equalization, grease trap, DAF, etc.? NONE

if so, describe:

Where is wastewater discharged:			Does a Permit Exist?	
Surface water discharges	**Yes**	**No**	**Yes**	**No**
Land application discharges	**Yes**	**No**	**Yes**	**No**
Deep well injection	**Yes**	**No**	**Yes**	**No**
Discharge to municipal system	**Yes**	**No**	**Yes**	**No**
Impoundments	**Yes**	**No**	**Yes**	**No**
Septic systems	**Yes**	**No**	**Yes**	**No**

describe as appropriate

Any evidence of groundwater wells, cisterns, or septic tanks? if so describe:
NONE

19. **STORMWATER**

Describe how stormwater is managed: RUNOFF COLLECTED ONSITE AND DISCHARGED TO ONSITE RETENTION BASIN

Does the stormwater flow to a combined sewer? NO

Does water run-off from neighboring facilities and have potential to impact this facility? NO

20. **WETLANDS**

Any known/delineated wetlands at the site? NO, Indicate size, location (indicate on sketch), and description.

21. **AIR EMISSIONS**

Does the site or facility currently generate Air Emissions? **Yes** **No** **Unknown**

Describe each piece of fuel burning equipment at the facility (e.g. manufacturer, heat input capacity, HP, installation date, etc.)

22. **GROUNDWATER**

Is there known groundwater contamination at this facility? UNKNOWN

If yes, list the contaminants:
NONE REPORTED

Are there groundwater monitoring wells at this facility? NONE OBSERVED

Where are these wells located?

Are regulatory agencies involved with monitoring? N/A

Status of investigation/remediation program?

23. **SPILLS**

Has this site or facility had spills or leaks of hazardous wastes, PCBs, hazardous substances, or chemicals used at the facility? **Yes** **No** **Unknown**

Complete the following information for spills which have occurred:

Date	*Substance Spilled*	*Spill Location*	*Cleaned Up*	*Reported*
_____	_____	_____	**Yes** **No**	**Yes** **No**
_____	_____	_____	**Yes** **No**	**Yes** **No**

24. **USED OIL**

Does this facility generate used oil? No

Describe the types and sources of used oil generated: N/A

Are all containers of used oil labeled accordingly? N/A

Describe how and where used oil is stored and handled:

25. **OTHER**

Are any pesticides or herbicides stored or used onsite? **Yes** **No** **Unknown**

Are lead acid batteries stored or used onsite? **Yes** **No** **Unknown** NONE OBSERVED

Is there ozone depleting substances (e.g., freons) containing equipment at the facility? **Yes** **No** **Unknown**

Is it maintained by onsite personnel? **Yes** **No** **Unknown**

Are fork lift trucks or any other hydraulic equipment maintained onsite? **Yes** **No** **Unknown** NONE OBSERVED

Are there any hydraulic lifts onsite? **Yes** **No** **Unknown** NONE OBSERVED

EXTREMELY HAZARDOUS SUBSTANCE HANDLED - NO VIOLATIONS REPORTED

3220 S Parkway Dr, Fresno, CA 93725
S Parkway Dr
© 2010 Google
Google

FA02	UNOCAL FRESNO BULK PL	3220	S	PARKWAY	FRESNO	93722	C L BRY/ UST FACILITY WITH FIVE TANKS
FA02	UNOCAL FRESNO BULK PL	3220	S	PARKWAY	FRESNO	93722	C L BRY/ MV FUEL/OIL/PROPANE ONLY IN AGST/UST MODEL I
FA02	UNOCAL FRESNO BULK PL	3220	S	PARKWAY	FRESNO	93722	C L BRY/ AST STORAGE CAPACITY 10,000 TO 99,999 GAL

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** CL Bryant (aka Unocal Bulk Plant; Pacific Pride) 3220 S Parkway, Fresno, CA 93722	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
1

Direction Photo Taken:

Looking northeast

Description:

View of the office/storage building from the southwest corner of the site. Note the Cedar Avenue overpass over Highway 99 beyond the site.

Photo No.
2

Direction Photo Taken:

Looking north

Description:

Dispenser islands viewed from Parkway Avenue. Note the RV dealer to the north side of the site.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** CL Bryant (aka Unocal Bulk Plant; Pacific Pride) 3220 S Parkway, Fresno, CA 93722	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
3

Direction Photo Taken:

Looking north

Description:

East side of the site. Cedar Avenue overpass over Highway 99 is on the right.

Photo No.
4

Direction Photo Taken:

Looking southwest

Description:

Stormwater retention basin at the south end of the site; Parkway Avenue beyond.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** CL Bryant (aka Unocal Bulk Plant; Pacific Pride) 3220 S Parkway, Fresno, CA 93722	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
5

Direction Photo Taken:

Looking northwest

Description:

View of the site from the southeast corner. Note the fuel ASTs in the secondary containment. Liquid in the containment is rain water.

Photo No.
6

Direction Photo Taken:

Looking west

Description:

View of the east side of the office/storage building.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** CL Bryant (aka Unocal Bulk Plant; Pacific Pride) 3220 S Parkway, Fresno, CA 93722	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
7

Direction Photo Taken:

Looking southwest

Description:

Fuel ASTs and propane AST located on the north side of the office/storage building.

Photo No.
8

Direction Photo Taken:

Looking southeast

Description:

Five USTs located at the east end of the dispenser islands.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** CL Bryant (aka Unocal Bulk Plant; Pacific Pride) 3220 S Parkway, Fresno, CA 93722	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
9

Direction Photo Taken:

Looking east

Description:

Stormwater drain on the west side of the office/storage building, near the center of the site. All runoff from the site drains to the retention basin at the south end of the site.

HST PHASE I ENVIRONMENTAL SITE ASSESSMENT

Name of Site: Professional Asbestos Removal Corp

EDR ID Number: 1000228675

Date of Inspection: 3/16/10

Requires Follow-up Site Visit: Yes (No)

Requires Agency File Review: Yes (No)

Site Inspector: Frank Gegumde

URS Office: Fresno, CA

Please take digital photographs during the reconnaissance. Please catalog the pictures - a sheet is attached for your use.

1. **Facility name** and address including zip code and county

Professional Asbestos Removal (Parc Environmental)
2706 S. Railroad Ave (Also includes 2716 S. Railroad aka
Fresno, CA Insulation Contracting & Supply)

County: Fresno

2. **Site layout**: Prepare or obtain a sketch of site if needed.

Site Acreage: ~5 Ac

Site Buildings:

Name	Number of stories	Dimensions	Square Footage	Year Built
1 Office	1		~4,000	
2 Shops	1		~15,000	?
			~6,000	?

Multiple cargo containers used for storage

3. The **general topography** of the site area is:

slightly / (relatively) / very (flat) / rolling / hilly

with surface drainage appearing to flow to the N S (E) W

4. Are the following located on or **adjacent to the subject site**?

Surface water: No

Wetlands: No

Floodplains: No

Parklands: No

Sensitive habitats: No

5. Please list **current visible onsite activities**:

Environmental demolition & debris removal; haz mat waste removal

Is equipment washed onsite? No

Is maintenance conducted onsite? If so, what types? Yes - Company equip, trucks,

Is fueling conducted onsite? None observed; No tank observed

6. **Site Area:**
General site area is (circle) residential commercial light industrial heavy industrial rural
other_____

Identify adjacent roadways and properties. Indicate any current surrounding land uses that have the potential to impact the site.

North AUTO REPAIR; SMALL APPLIANCE WAREHOUSE; OTHER COMMERCIAL DEVELOPMENT

South VACANT LOT (TRUCK PARKING - CENTRAL CALIFORNIA TRANSPORT); OTHER COMMERCIAL DEVELOPMENT

East RAILROAD AVENUE; UNION PACIFIC & BNSF RAILROAD TRACKS; COMMERCIAL

West COMMERCIAL; AUTO/TRUCK REPAIR; VACANT WAREHOUSE

7. Observations of potential environmental issues: (stressed vegetation, indications of liquid or solid waste dumping or disposal, discolored flowing or ponded waters, evidence of groundwater monitoring wells or remedial activities, abnormal odors, the presence of unnatural fill material or soil grading):

NONE

8. **Utilities-list all visable utility services (power lines, meters etc)**

Electric Service by: PG&E

Gas Service by: THE GAS COMPANY

Water Service by: CITY OF FRESNO

Wastewater Service by: CITY OF FRESNO

Steam by: NONE

9. **Onsite Aboveground and Underground Storage Tanks**; complete the table below. Be sure to include the tank locations on the site sketch!

Are there any ASTs/USTs, active or inactive, present at the site currently? YES, formerly? NO

FUEL FOR FORKLIFTS

UST (U) or AST (A)	Tank Size	Contents	Installation Date	Tank Material	Visible Staining	Registration	Active Removed Closed or
U/A	~500 GALLON	PROPANE		STEEL	Y/N	Y/N	ACTIVE
U/A	SEVERAL TRANSPORT TANKS (EMPT.)				Y/N	Y/N	
U/A	LOCATED ONSITE				Y/N	Y/N	

U / A _____ _____ _____ _____ Y / N Y / N _____

10. What is the condition of the tanks as indicated by visual inspection etc.? GOOD
ALSO NOTED SMALLER PROPANE TANKS USED FOR INTER-CHANGEABLE FUEL TANKS ON FORK LIFTS

11. Have there been any releases? NONE OBSERVED OR REPORTED

To whom were the releases reported? N/A

What is status of release investigation? N/A

12. **ASBESTOS**

Is there known asbestos onsite? **Yes** **No** **Unknown**

Was an asbestos survey conducted and what were the results? NO - COMPANY DOES ACM TESTING + ABATEMENT; DOES NOT STORE MATERIAL ONSITE
NO ACM OBSERVED DURING THE SITE VISIT (FROM PUBLIC ROW)

13. **HAZARDOUS CHEMICALS**

Does the site or facility currently store or use hazardous chemicals? **Yes** **No** **Unknown**

Indicate **primary** chemicals, raw materials and petroleum used, generated stored, released,

Chemical	Quantity	Location/Bldg. ID	Condition	Pathways
SOME MOTOR OIL, PAINT, SOLVENTS USED IN THE SHOP AREA (NO FUEL OBSERVED); (NO CHEMICALS OBSERVED)				

14. **SOLID WASTE GENERATION**

Does the site or facility currently generate solid wastes? **Yes** **No** **Unknown**

General Plant Trash consists of (Circle): Office Paper; Breakroom Waste; General Packaging; Restroom Wastepaper;

Other:_____

Accumulated in: compactor? Dumpster? located: N S E W of the building.

Hauled off by:_____ 2x

15. **HAZARDOUS WASTES**

Does the site or facility currently generate hazardous wastes? **Yes** **No** **Unknown**

Where are the wastes disposed? NO HAZ WASTE IS GENERATED ONSITE

Were any wastes observed that might meet the definition of hazardous waste but have not been tested to be hazardous or are not handled as hazardous? NO if so, describe:

16. **PCBs**

Identify the presence of PCB contamination including the presence of potential PCB electrical or other equipment.

Equipment	Owner	Condition	PCB-content	Serial #	Pathways

THERE ARE 2 POLE-MOUNTED TRANSFORMERS LOCATED ON THE 2716 PARCEL; THE ARE 3 POLE-MOUNTED TRANSFORMERS LOCATED OFF-SITE AT THE N/E CORNER

17. **DRINKING WATER**

What is source of drinking water at the site? CITY OF FRESNO

What is source of process water for the site? n/a or N/A

What is the source of drinking water for surrounding properties? CITY OF FRESNO

Are there any wells known to exist at the site? NO, Describe NONE OBSERVED OR REPORTED

If wells are used for drinking water at the site, obtain water quality data N/A

Describe any onsite surface water resources: none or

18. **WASTEWATER**

Does the site or facility currently generate wastewater? **Yes** **No** **Unknown**

Describe the type and volume of wastewater that is generated (sanitary, non-contact, process, etc.)

OFFICE + SHOP RESTROOMS

Is any wastewater treatment conducted (e.g. pH adjustment, equalization, grease trap, DAF, etc.? No

if so, describe:

Where is wastewater discharged:			Does a Permit Exist?	
Surface water discharges	Yes	No	Yes	No
Land application discharges	Yes	No	Yes	No
Deep well injection	Yes	No	Yes	No
Discharge to municipal system	Yes	No	Yes	No
Impoundments	Yes	No	Yes	No
Septic systems	Yes	No	Yes	No

describe as appropriate

Any evidence of groundwater wells, cisterns, or septic tanks? if so describe:
NO

19. **STORMWATER**

Describe how stormwater is managed: INFILTRATION OR SHEET RUNOFF EAST

Does the stormwater flow to a combined sewer? NO

Does water run-off from neighboring facilities and have potential to impact this facility? NO

20. **WETLANDS**

Any known/delineated wetlands at the site? NO, Indicate size, location (indicate on sketch), and description.

21. **AIR EMISSIONS**

Does the site or facility currently generate Air Emissions? **Yes** **No** **Unknown**

Describe each piece of fuel burning equipment at the facility (e.g. manufacturer, heat input capacity, HP, installation date, etc.)

NOTHING OBSERVED OR REPORTED

22. **GROUNDWATER**

Is there known groundwater contamination at this facility? NO

If yes, list the contaminants:

ANY GROUNDWATER ISSUES ARE THE RESULT OF ADJACENT OR NEARBY SITE OR SITES; NOTHING HAS BEEN REPORTED AT THIS SITE

Are there groundwater monitoring wells at this facility? NONE OBSERVED

Where are these wells located?

N/A

Are regulatory agencies involved with monitoring? N/A

Status of investigation/remediation program? N/A

23. **SPILLS**

Has this site or facility had spills or leaks of hazardous wastes, PCBs, hazardous substances, or chemicals used at the facility? **Yes** **No** **Unknown**

Complete the following information for spills which have occurred:

Date	*Substance Spilled*	*Spill Location*	*Cleaned Up*	*Reported*
NOTHING REPORTED			**Yes** **No**	**Yes** **No**
			Yes **No**	**Yes** **No**

24. **USED OIL**

Does this facility generate used oil? UNKNOWN - SEEMS LIKELY GIVEN THAT

Describe the types and sources of used oil generated: THERE ARE COMPANY EQUIP. AND VEHICLES PARKED ONSITE (TRUCKS + FORKLIFTS)

Are all containers of used oil labeled accordingly? UNKNOWN

Describe how and where used oil is stored and handled:

UNKNOWN

25. **OTHER**

Are any pesticides or herbicides stored or used onsite? **Yes** **No** **Unknown**

Are lead acid batteries stored or used onsite? **Yes** **No** **Unknown**

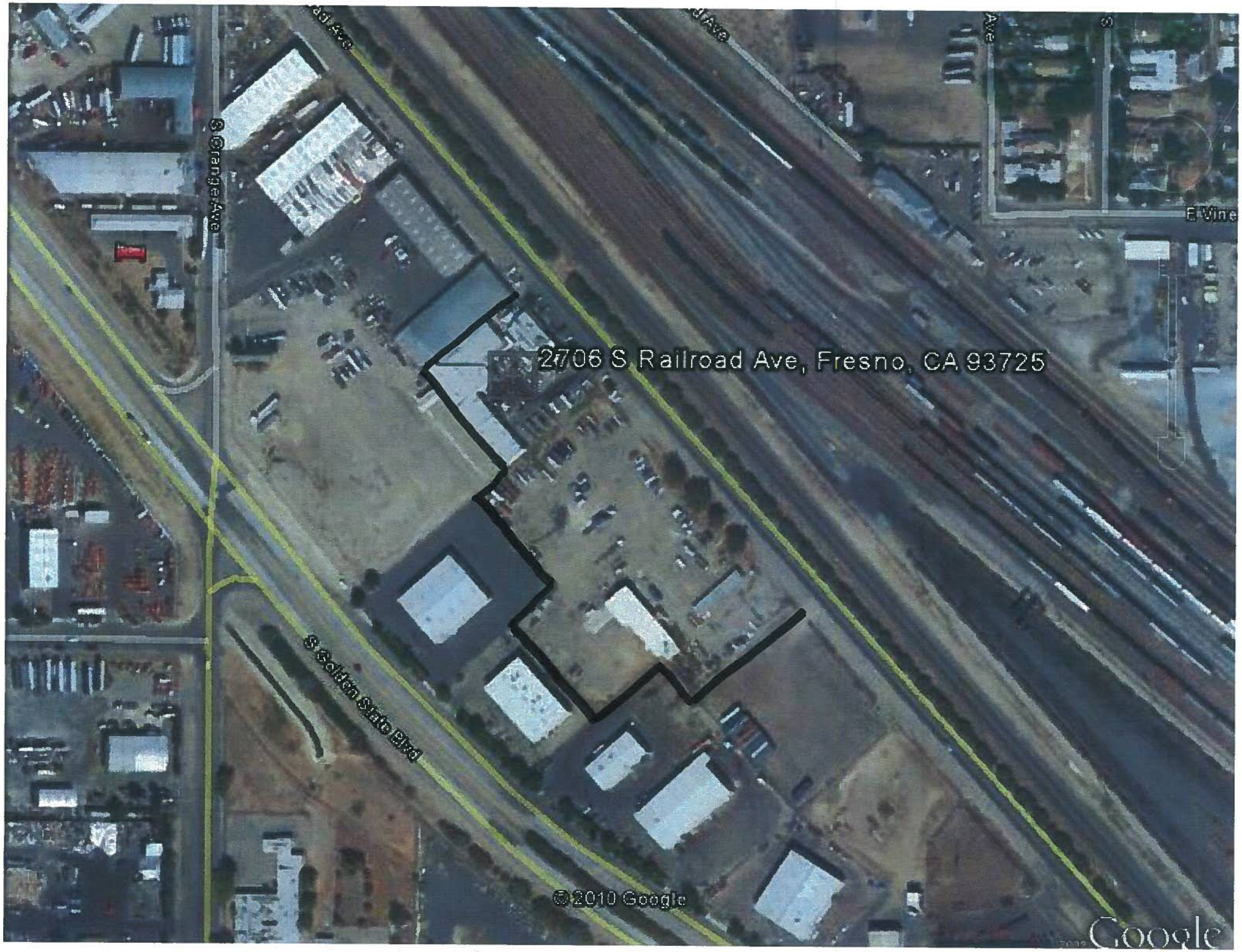
Is there ozone depleting substances (e.g., freons) containing equipment at the facility? **Yes** **No** **Unknown**

Is it maintained by onsite personnel? **Yes** **No** **Unknown** N/A

Are fork lift trucks or any other hydraulic equipment maintained onsite? **Yes** **No** **Unknown**

Are there any hydraulic lifts onsite? **Yes** **No** **Unknown**

SITE HAS MULTIPLE VIOLATIONS RELATED TO TRANSPORT AND DISPOSAL OF HAZ MAT AT OFF-SITE LOCATIONS. THERE ARE NO REPORTS OF ONSITE CONTAMINATION, IMPACT OR REMEDIATION


2706 S Railroad Ave, Fresno, CA 93725
S Orange Ave
S Golden State Blvd
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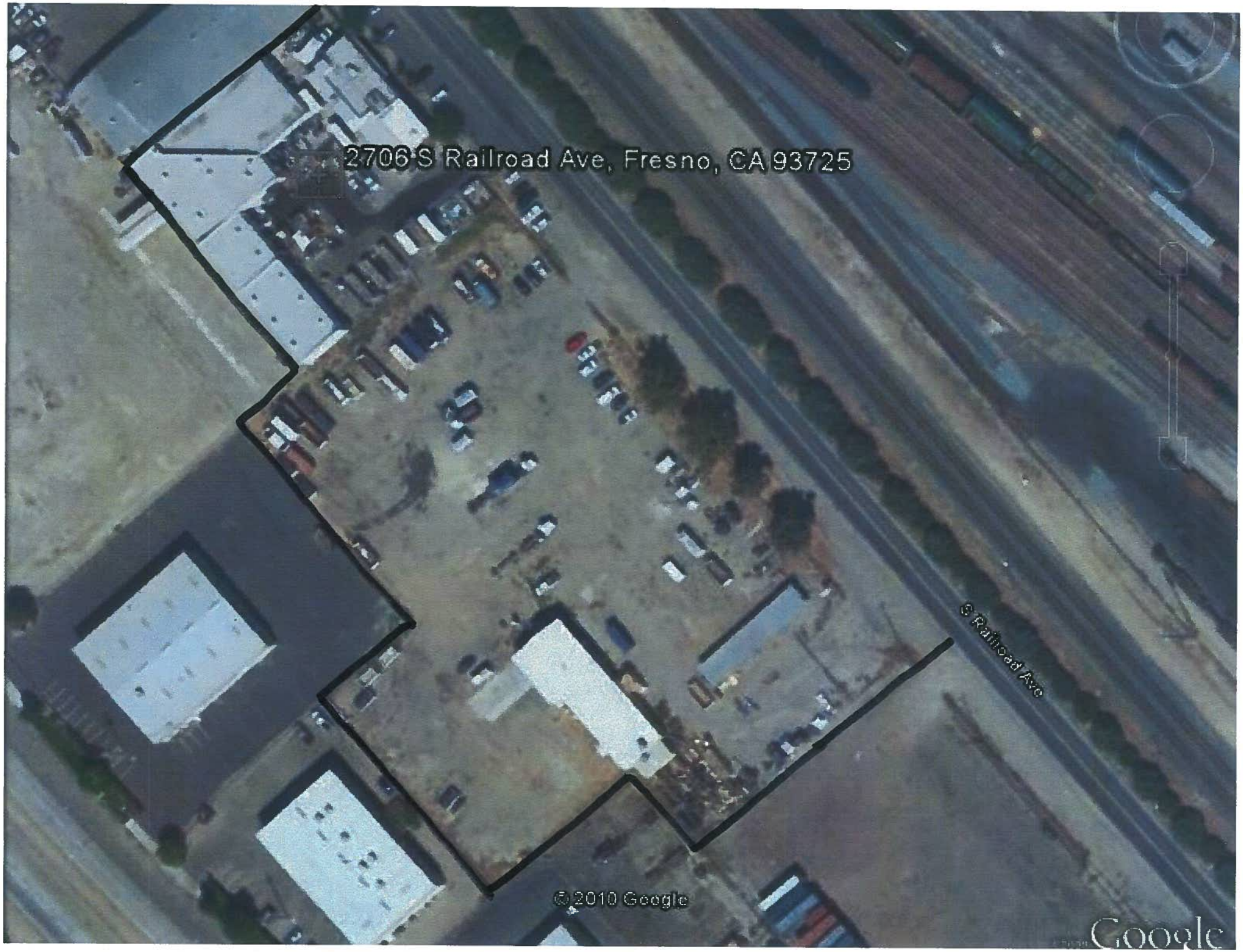
2706 S Railroad Ave, Fresno, CA 93725
S Railroad Ave
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FA02	PARC ENVIRONMENTAL-IC	2706	S	RAILROAD	FRESNO	93725	PROFES SMALL HAZARDOUS MATERIALS HANDLER
FA02	PARC ENVIRONMENTAL-IC	2716	S	RAILROAD	FRESNO	93725	PROFES HAZARDOUS WASTE GENERATOR (CESQG)
FA02	PARC ENVIRONMENTAL-IC	2716	S	RAILROAD	FRESNO	93725	PROFES HAZ MAT DISCLOSURE-BELOW REPORTING QUANT

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Professional Asbestos Removal Corporation 2706 S Railroad, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No. **1**

Direction Photo Taken:

Looking west

Description:

Professional Asbestos Removal Corporation (PARC) offices facing Railroad Avenue.

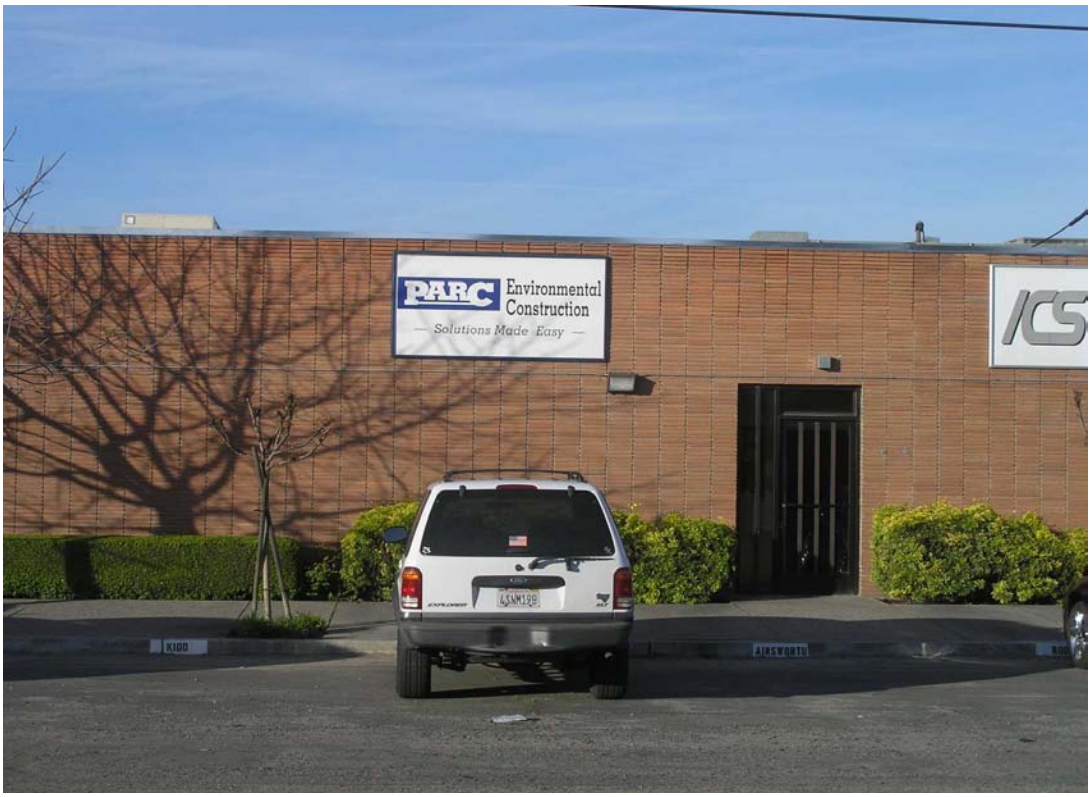


Photo No. **2**

Direction Photo Taken:

Looking south

Description:

View of the east side of the PARC facility along Railroad Avenue. The Union Pacific tracks are east of the shrubbery at the left of the frame.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Professional Asbestos Removal Corporation 2706 S Railroad, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
3

Direction Photo Taken:

Looking west

Description:

Equipment and materials storage around the warehouse on the north and west sides of the site.

Photo No.
4

Direction Photo Taken:

Looking west

Description:

Propane is used for forklift fuel. The tank is located near the main entrance to the site along Railroad Avenue

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Professional Asbestos Removal Corporation 2706 S Railroad, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
5

Direction Photo Taken:

Looking west

Description:

Rolloff bins used for environmental cleanup and demolition cleanup work. No asbestos containing materials (ACMs) were observed stored onsite

Photo No.
6

Direction Photo Taken:

Looking southwest

Description:

Empty ASTs and rolloff bins stored near the south end of the site.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Professional Asbestos Removal Corporation 2706 S Railroad, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
7

Direction Photo Taken:

Looking west

Description:

Rolloff bins, drums and totes used in environmental clean up work stored in the south end of the site.

Photo No.
8

Direction Photo Taken:

Looking northwest

Description:

Insulation material stored in the south end of the site.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Professional Asbestos Removal Corporation 2706 S Railroad, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
9

Direction Photo Taken:

Looking north

Description:

Insulation material stored in the south end of the site.

Photo No.
10

Direction Photo Taken:

Looking northeast

Description:

View of the site looking from the southwest corner.

HST PHASE I ENVIRONMENTAL SITE ASSESSMENT

Name of Site: Sunland Refining Corporation
Date of Inspection: 3/16/10
Site Inspector: Thomas Lender

EDR ID Number: S102860851
Requires Follow-up Site Visit: Yes (No)
Requires Agency File Review: (Yes) No
URS Office: Fresno

Please take digital photographs during the reconnaissance. Please catalog the pictures - a sheet is attached for your use.

1. **Facility name** and address including zip code and county

Sunland Refining Corporation
2152 Coffee Road
Bakersfield, CA 93308
County: Kern

2. **Site layout**: Prepare or obtain a sketch of site if needed.

Site Acreage: ~ 10

Site Buildings:

Name	Number of stories	Dimensions	Square Footage	Year Built
office Bldg	1			

3. The **general topography** of the site area is:

slightly / (relatively) / very (flat) / rolling / hilly w/ Berms + depressions

with surface drainage appearing to flow to the N S E W - Internal

4. Are the following located on or **adjacent to the subject site**?

Surface water: no
Wetlands: no
Floodplains: no
Parklands: no
Sensitive habitats: no

5. Please list **current visible onsite activities**:

Monitoring/Remediation, 1 Visible oil well (not operating today, unknown if active)

Is equipment washed onsite? no
Is maintenance conducted onsite? If so, what types? no
Is fueling conducted onsite? no

6. **Site Area:**
General site area is (circle) residential commercial light industrial former heavy industrial rural
other

Identify adjacent roadways and properties. Indicate any current surrounding land uses that have the potential to impact the site.

North Jatway Blvd, Lowe's Store, other commercial development

South BNSF Railroad, Petroleum Truck yard, Vacant Lot (Remediation System Visible

East Ag. Canal, vacant lots, BIG West Refinery (Texaco + Tosco) about 1 mile to east.

West Coffee Road, PG+E Substation + Former PG+E Steam plant (Many Monitoring Wells Visible), oil wells surrounding Steam plant (Hydrocarbon Constituents detected in gw under steam plant)

7. Observations of potential environmental issues: (stressed vegetation, indications of liquid or solid waste dumping or disposal, discolored flowing or ponded waters, evidence of groundwater monitoring wells or remedial activities, abnormal odors, the presence of unnatural fill material or soil grading):

monitoring wells visible, possible remedial activities

8. **Utilities-list all visable utility services (power lines, meters etc)**

Electric Service by: PG+E

Gas Service by: Gas Company

Water Service by: City

Wastewater Service by: ~~City~~ Ø

Steam by:

9. **Onsite Aboveground and Underground Storage Tanks**; complete the table below. Be sure to include the tank locations on the site sketch!

Are there any ASTs/USTs, active or inactive, present at the site currently? yes, formerly? yes

UST (U) or AST (A)	Tank Size	Contents	Installation Date	Tank Material	Visible Staining	Registration	Active Removed Closed or
U / A	(4) ~1000gal	unknown (~~former fuel/oil tanks?~~) (Labeled "Waste Water")			Y / N	Y / N	likely unused
U / A					Y / N	Y / N	
U / A					Y / N	Y / N	

U / A _____ _____ _____ _____ Y / N Y / N _____

10. What is the condition of the tanks as indicated by visual inspection etc.? appears old but intact

11. Have there been any releases? Petroleum Hydrocarbons (gas, diesel/oil), aromatic Hydrocarbons (Benzene + MTBE)

To whom were the releases reported? See Geotracker

What is status of release investigation? Ongoing

12. **ASBESTOS**

Is there known asbestos onsite? **Yes** **No** **Unknown**

Was an asbestos survey conducted and what were the results? no likely asbestos wrapped piping remains, no visual evidence of such.

13. **HAZARDOUS CHEMICALS**

Does the site or facility currently store or use hazardous chemicals? **Yes** **No** **Unknown**

Indicate **primary** chemicals, raw materials and petroleum used, generated stored, released,

Chemical	Quantity	Location/Bldg. ID	Condition	Pathways

14. **SOLID WASTE GENERATION**

Does the site or facility currently generate solid wastes? **Yes** **No** **Unknown**

General Plant Trash consists of (Circle): Office Paper; Breakroom Waste; General Packaging; Restroom Wastepaper;

Other:_____

Accumulated in: compactor? Dumpster? located: N S E W of the building.

Hauled off by:_____

15. **HAZARDOUS WASTES**

Does the site or facility currently generate hazardous wastes? **Yes** **No** **Unknown**

Where are the wastes disposed? possible purge water from Groundwater Monitoring

Were any wastes observed that might meet the definition of hazardous waste but have not been tested to be hazardous or are not handled as hazardous? NO if so, describe:

16. **PCBs**

Identify the presence of PCB contamination including the presence of potential PCB electrical or other equipment.

Equipment	Owner	Condition	PCB-content	Serial #	Pathways
~~NO~~					

17. **DRINKING WATER**

What is source of drinking water at the site? City?

What is source of process water for the site? n/a or

What is the source of drinking water for surrounding properties? City?

Are there any wells known to exist at the site? yes, Describe one well Visible on eastern edge of site

If wells are used for drinking water at the site, obtain water quality data

Describe any onsite surface water resources: none or

18. **WASTEWATER**

Does the site or facility currently generate wastewater? **Yes** **No** **Unknown**

Describe the type and volume of wastewater that is generated (sanitary, non-contact, process, etc.)

Possible purge water from GW monitoring or other

Is any wastewater treatment conducted (e.g. pH adjustment, equalization, grease trap, DAF, etc.?

if so, describe:

Where is wastewater discharged:			Does a Permit Exist?	
Surface water discharges	Yes	No	Yes	No
Land application discharges	Yes	No	Yes	No
Deep well injection	Yes	No	Yes	No
Discharge to municipal system	Yes	No	Yes	No
Impoundments	Yes	No	Yes	No
Septic systems	Yes	No	Yes	No

describe as appropriate Berms Contain Stormwater Runoff

Any evidence of groundwater wells, cisterns, or septic tanks? if so describe:
One GW well head visible on eastern border

19. **STORMWATER**

Describe how stormwater is managed: Contained onsite by berms

Does the stormwater flow to a combined sewer? no

Does water run-off from neighboring facilities and have potential to impact this facility? no

20. **WETLANDS**

Any known/delineated wetlands at the site? NO, Indicate size, location (indicate on sketch), and description.

21. **AIR EMISSIONS**

Does the site or facility currently generate Air Emissions? **Yes** **(No)** **Unknown**

Describe each piece of fuel burning equipment at the facility (e.g. manufacturer, heat input capacity, HP, installation date, etc.)

22. **GROUNDWATER**

Is there known groundwater contamination at this facility? yes

If yes, list the contaminants:

Gasoline, Diesel, Oil, Benzene, MTBE

Are there groundwater monitoring wells at this facility? yes

Where are these wells located?

throughout

Are regulatory agencies involved with monitoring? yes

Status of investigation/remediation program? ongoing, defining extents of contamination primarily to NW of Site

23. **SPILLS**

Has this site or facility had spills or leaks of hazardous wastes, PCBs, hazardous substances, or chemicals used at the facility? **Yes** **No** **Unknown**

Complete the following information for spills which have occurred:

Date	*Substance Spilled*	*Spill Location*	*Cleaned Up*	*Reported*
			Yes **No**	**Yes** **No**
			Yes **No**	**Yes** **No**

24. **USED OIL**

Does this facility generate used oil? no

Describe the types and sources of used oil generated: _____

Are all containers of used oil labeled accordingly? _____

Describe how and where used oil is stored and handled:

25. **OTHER**

Are any pesticides or herbicides stored or used onsite? **Yes** **No** **Unknown**

Are lead acid batteries stored or used onsite? **Yes** **No** **Unknown**

Is there ozone depleting substances (e.g., freons) containing equipment at the facility? **Yes** **No** **Unknown**

Is it maintained by onsite personnel? **Yes** **No** **Unknown**

Are fork lift trucks or any other hydraulic equipment maintained onsite? **Yes** **No** **Unknown**

Are there any hydraulic lifts onsite? **Yes** **No** **Unknown**

Former refinery location. Most Equipment Demolished/Removed, unable to define entire Site boundary. may extend to Northwest and or Southwest. Unable to locate personel to interview. See Geotracker for further info. One Oil well visible onsite. Concrete Debris Stockpile visible also.

Photo Log

Date: _____

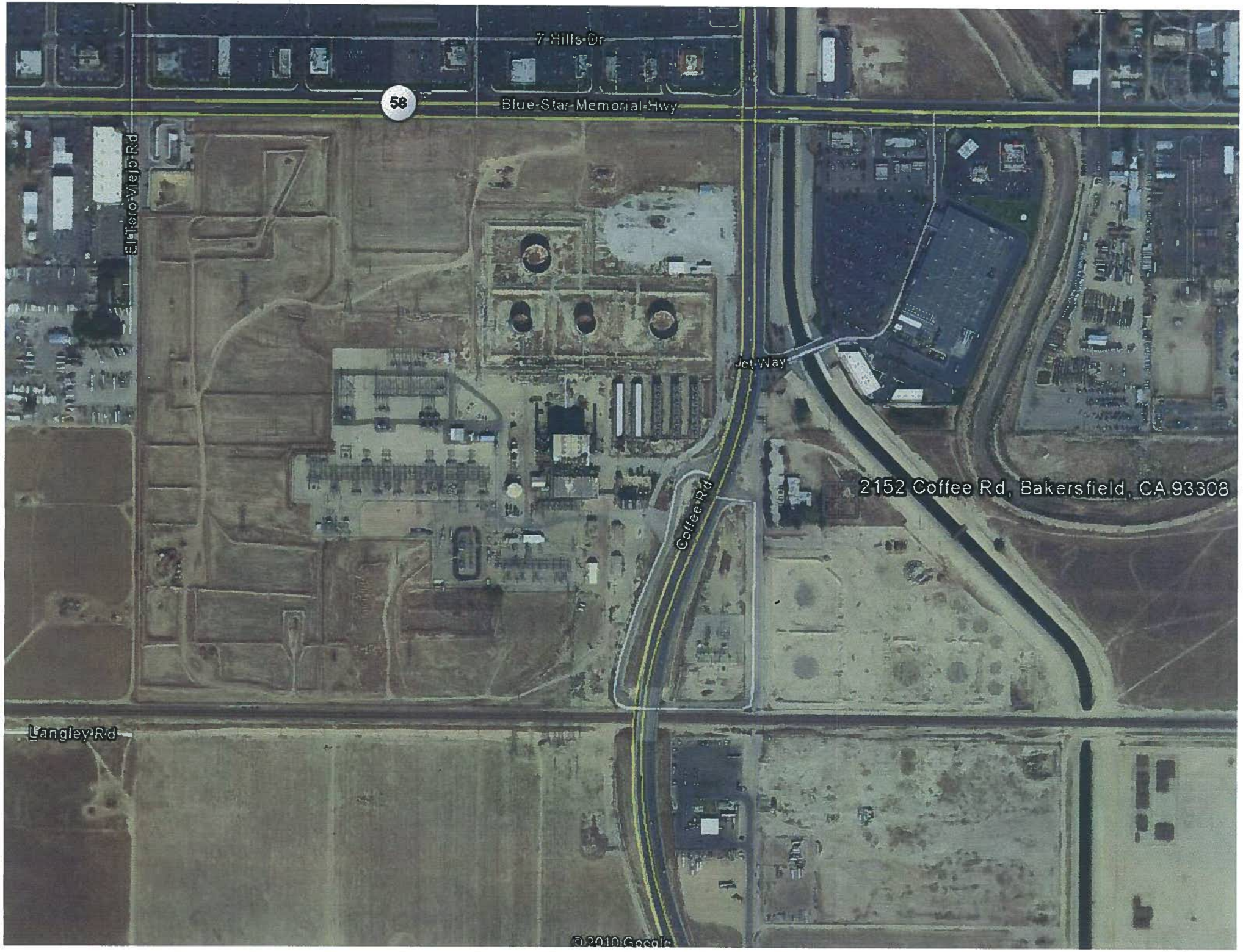
Project: _____ **Project Number:** _____

Location / Site _____

URS Field Staff: _____

Photo Number	Direction of Photo	Location - Description

Page _____ **of** _____


7 Hills Dr
58
Blue Star Memorial Hwy
El Toro Viejo Rd
Jet Way
Coffee Rd
2152 Coffee Rd, Bakersfield, CA 93308
Langley Rd
© 2010 Google

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Sunland Refining Corporation 2152 Coffee Road, Bakersfield, CA 93308	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
1

Direction Photo Taken:

Looking east

Description:

View of the south end of the site along the BNSF tracks from the southwest corner of the site. Note the soil and groundwater remediation system in the foreground

Photo No.
2

Direction Photo Taken:

Looking northeast

Description:

View across the site from the southwest corner. Note the remediation well in the lower center of the frame. Also note the former tank pad in the middle of the frame.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Sunland Refining Corporation 2152 Coffee Road, Bakersfield, CA 93308	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
3

Direction Photo Taken:

Looking east

Description:

Concrete debris pile, active oil well and water supply well (status unknown) located on the east side of the site near the Calloway Canal.

Photo No.
4

Direction Photo Taken:

Looking southeast

Description:

Active remediation system operating on the parcel south of the site (between the site and the proposed CAHST alignment alternative).

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Sunland Refining Corporation 2152 Coffee Road, Bakersfield, CA 93308	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
5

Direction Photo Taken:

Looking southeast

Description:

View from the northwest corner of the site. Note the groundwater monitoring well in the lower right corner of the frame.

Photo No.
6

Direction Photo Taken:

Looking northwest

Description:

PG&E steam generation plant located across Coffee Road northwest of the site.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Sunland Refining Corporation 2152 Coffee Road, Bakersfield, CA 93308	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
7

Direction Photo Taken:

Looking east

Description:

Vacant structure at the north end of the site. Reportedly ConocoPhillips had temporarily leased the building and recently moved out.

HST PHASE I ENVIRONMENTAL SITE ASSESSMENT

Name of Site: WILBUR - ELLIS

EDR ID Number: S109422410

Date of Inspection: 3/16/10

Requires Follow-up Site Visit: Yes (No)

Requires Agency File Review: (Yes) No

Site Inspector: FRANK GEGUNDE

URS Office: FRESNO, CA

Please take digital photographs during the reconnaissance. Please catalog the pictures - a sheet is attached for your use.

1. **Facility name** and address including zip code and county

WILBUR ELLIS
2903 S. CEDAR
FRESNO, CA
County: FRESNO

2. **Site layout**: Prepare or obtain a sketch of site if needed.

Site Acreage: ~10 AC

Site Buildings:

Name	Number of stories	Dimensions	Square Footage	Year Built

SITE STRUCTURES INCLUDE AN ACCOUNTING OFFICE; MAIN WAREHOUSE; 3 SUB-WAREHOUSES; LIQUID FORMULATION BLDG.; SOLID FORMULATION BLDG.; SHOP; RAYMOND MILL; AND THE LUNCH ROOM

3. The **general topography** of the site area is:

slightly / (relatively) / very (flat) / rolling / hilly

with surface drainage appearing to flow to the N (S) E W

4. Are the following located on or **adjacent to the subject site**?

Surface water: NO
Wetlands: NO
Floodplains: NO
Parklands: NO
Sensitive habitats: NO

THERE ARE GRADED SWALES IN THE SOUTHERN 1/4 OF THE SITE; THIS AREA IS DESIGNATED AS THE "YARD DRAINAGE AREA"

5. Please list **current visible onsite activities**:

PESTICIDE MANUFACTURE (FERTILIZER MFG PRIOR TO 1952) PACKAGING; STORAGE; AND SHIPPING

Is equipment washed onsite? YES
Is maintenance conducted onsite? If so, what types? YES; PROCESS EQUIPMENT MAINT.
Is fueling conducted onsite? UNKNOWN - LIKELY

6. **Site Area:**
General site area is (circle) residential commercial light industrial heavy industrial rural
other_____

Identify adjacent roadways and properties. Indicate any current surrounding land uses that have the potential to impact the site.

North BNSF RAILROAD SPUR; GOLDEN STATE BLVD; BNSF INTERMODAL RAIL YARD; UNION PACIFIC RR TRACKS

South FRESNO COLONY CANAL; NORTH AVENUE; COMMERCIAL

East BNSF RAILROAD SPUR; GOLDEN STATE BLVD; BNSF INTERMODAL RAIL YARD; UNION PACIFIC RR TRACKS

West CEDAR AVENUE; VACANT PARCELS; COMMERCIAL (ANALYTICAL FEED & FOOD LAB / MANNA PRO; BEER DIST.

7. Observations of potential environmental issues: (stressed vegetation, indications of liquid or solid waste dumping or disposal, discolored flowing or ponded waters, evidence of groundwater monitoring wells or remedial activities, abnormal odors, the presence of unnatural fill material or soil grading):

SITE IS A PESTICIDE MANUFACTURE AND APPLICATION FACILITY THAT WAS IDENTIFIED IN 1981 AS DISCHARGING CONTAMINATED SURFACE RUNOFF TO THE YARD DRAINAGE AREA. (SEE ATTACHED REPORT FOR SUMMARY)

8. **Utilities-list all visable utility services (power lines, meters etc)**

Electric Service by: PG&E

Gas Service by: THE GAS COMPANY

Water Service by: CITY OF FRESNO

Wastewater Service by: CITY OF FRESNO

Steam by: NONE

9. **Onsite Aboveground and Underground Storage Tanks**; complete the table below. Be sure to include the tank locations on the site sketch!

NO UST'S REPORTED OR OBSERVED – USTS REMOVED, NO CLOSURE REPORT!

Are there any ASTs/USTs, active or inactive, present at the site currently? YES, formerly? YES

UST (U) or AST (A)	Tank Size	Contents	Installation Date	Tank Material	Visible Staining	Registration	Active Removed Closed or
U / A	MULTIPLE	USTS	OF	UNKNOWN	Y / N	Y / N	ACTIVE +
U / A	CONTENTS	(SEE	PHOTOS)		Y / N	Y / N	INACTIVE
U / A					Y / N	Y / N	

U / A _____ _____ _____ _____ Y / N Y / N _____

10. What is the condition of the tanks as indicated by visual inspection etc.? VARIES

11. Have there been any releases? UNKNOWN

To whom were the releases reported? N/A

What is status of release investigation? N/A

12. **ASBESTOS**

Is there known asbestos onsite? **Yes** **No** **Unknown**

Was an asbestos survey conducted and what were the results? No

13. **HAZARDOUS CHEMICALS**

Does the site or facility currently store or use hazardous chemicals? **Yes** **No** **Unknown**

Indicate **primary** chemicals, raw materials and petroleum used, generated stored, released,

Chemical	Quantity	Location/Bldg. ID	Condition	Pathways
SEE ATTACHED REPORT FOR SUMMARY				

14. **SOLID WASTE GENERATION**

Does the site or facility currently generate solid wastes? **Yes** **No** **Unknown**

General Plant Trash consists of (Circle): Office Paper; Breakroom Waste; General Packaging; Restroom Wastepaper;

Other:_____

Accumulated in: compactor? Dumpster? located: N S E W of the building.

Hauled off by: UNKNOWN

15. **HAZARDOUS WASTES**

Does the site or facility currently generate hazardous wastes? **Yes** **No** **Unknown**

Where are the wastes disposed? UNKNOWN

Were any wastes observed that might meet the definition of hazardous waste but have not been tested to be hazardous or are not handled as hazardous? YES if so, describe:
SEE SITE PHOTOS AND ATTACHED REPORT FOR SUMMARY

16. **PCBs**

Identify the presence of PCB contamination including the presence of potential PCB electrical or other equipment.

Equipment	Owner	Condition	PCB-content	Serial #	Pathways
1 POLE-MOUNTED TRANSFORMER OBSERVED ON SITE (MORE LIKELY); HYDRAULIC EQUIPMENT ALSO OBSERVED					

17. **DRINKING WATER**

What is source of drinking water at the site? CITY OF FRESNO

What is source of process water for the site? n/a or THERE ARE 2 WATER SUPPLY WELLS

What is the source of drinking water for surrounding properties? CITY OF FRESNO

Are there any wells known to exist at the site? 2, Describe (THERE ARE 2 WATER SUPPLY WELLS AND 1 WASTEWATER INJECTION WELL ONSITE

If wells are used for drinking water at the site, obtain water quality data ACCORDING TO THE

Describe any onsite surface water resources: none or ATTACHED REPORT (c. 1992). THIS WAS NOT VERIFIED DURING THE SITE VISIT)

18. **WASTEWATER**

Does the site or facility currently generate wastewater? **Yes** **No** **Unknown**

Describe the type and volume of wastewater that is generated (sanitary, non-contact, process, etc.)

Is any wastewater treatment conducted (e.g. pH adjustment, equalization, grease trap, DAF, etc.? YES

if so, describe: WASTE WATER INJECTION WELL (NO VERIFIED)

Where is wastewater discharged:			Does a Permit Exist?	
Surface water discharges	Yes	No	Yes	No
Land application discharges	Yes	No	Yes	No
Deep well injection	Yes	No	Yes	No
Discharge to municipal system	Yes	No	Yes	No
Impoundments	Yes	No	Yes	No
Septic systems	Yes	No	Yes	No

describe as appropriate NO VERIFIED - SEE ATTACHED REPORT

Any evidence of groundwater wells, cisterns, or septic tanks? if so describe:

SEE ATTACHED REPORT

19. **STORMWATER**

Describe how stormwater is managed: INFILTRATION - ONSITE RETENTION BASIN

Does the stormwater flow to a combined sewer? No

Does water run-off from neighboring facilities and have potential to impact this facility? No

20. **WETLANDS**

Any known/delineated wetlands at the site? No, Indicate size, location (indicate on sketch), and description.

21. **AIR EMISSIONS**

Does the site or facility currently generate Air Emissions? **Yes** **No** **Unknown**

Describe each piece of fuel burning equipment at the facility (e.g. manufacturer, heat input capacity, HP, installation date, etc.)

APPEARS THAT AIR EMISSIONS ARE LIKELY

22. **GROUNDWATER**

Is there known groundwater contamination at this facility? Yes

If yes, list the contaminants:

PESTICIDES

Are there groundwater monitoring wells at this facility? YES

Where are these wells located?

S/W + S/E CORNERS; EAST SIDE

Are regulatory agencies involved with monitoring? DTSC

Status of investigation/remediation program? INACTIVE - NEEDS EVALUATION (5/18/09)

23. **SPILLS**

Has this site or facility had spills or leaks of hazardous wastes, PCBs, hazardous substances, or chemicals used at the facility? **Yes** **No** **Unknown**

Complete the following information for spills which have occurred:

Date	*Substance Spilled*	*Spill Location*	*Cleaned Up*	*Reported*
	PESTICIDES / HERBICIDES		**Yes No**	**Yes No**
			Yes No	**Yes No**

24. **USED OIL**

Does this facility generate used oil? YES

Describe the types and sources of used oil generated: UNKNOWN

Are all containers of used oil labeled accordingly? UNKNOWN

Describe how and where used oil is stored and handled:

25. **OTHER**

Are any pesticides or herbicides stored or used onsite? **Yes** **No** **Unknown**

SITE MANUFACTURES, STORES, AND SHIPS PESTICIDES/HERBICIDES

Are lead acid batteries stored or used onsite? **Yes** **No** **Unknown**

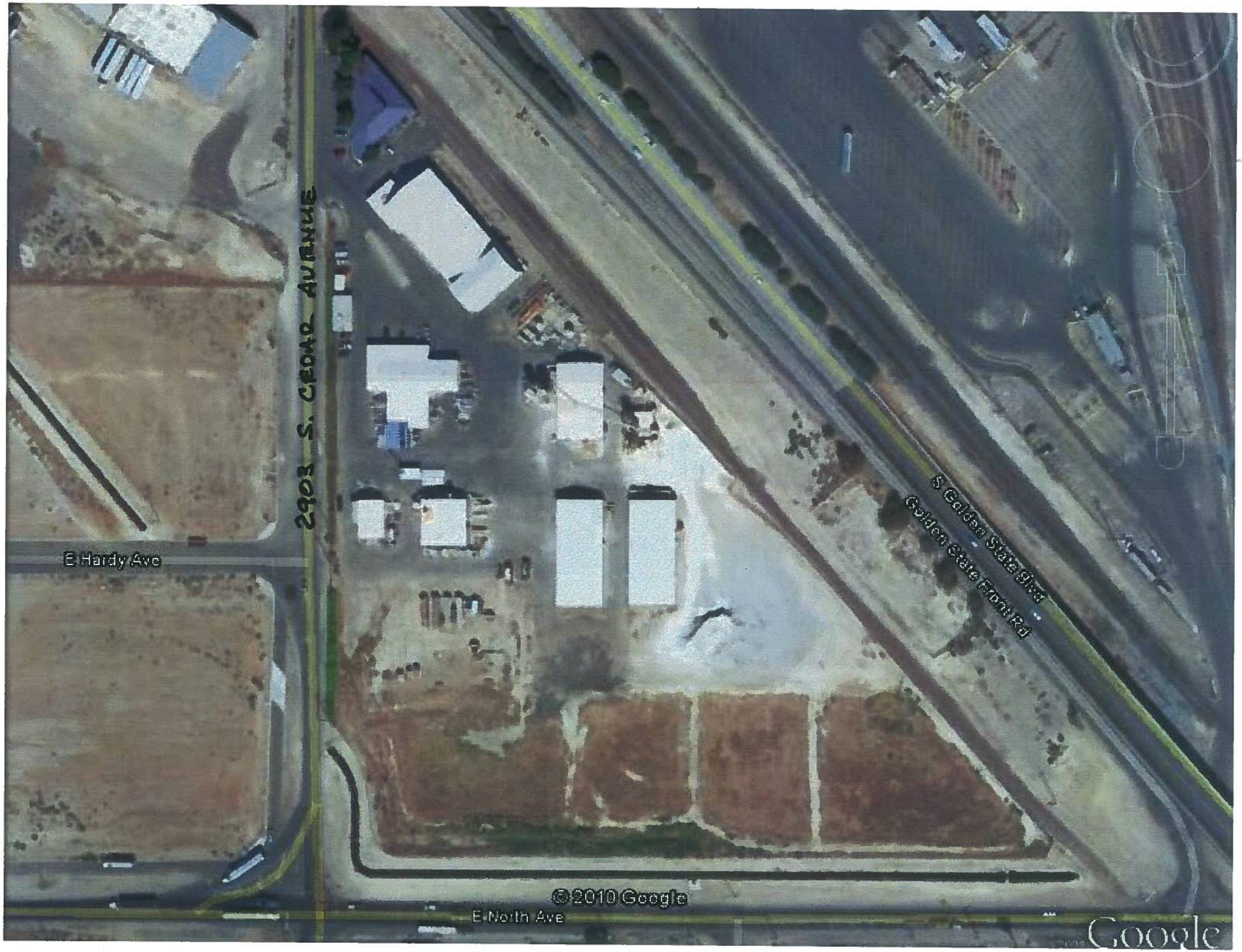
Is there ozone depleting substances (e.g., freons) containing equipment at the facility? **Yes** **No** **Unknown**

Is it maintained by onsite personnel? **Yes** **No** **Unknown**

Are fork lift trucks or any other hydraulic equipment maintained onsite? **Yes** **No** **Unknown**

Are there any hydraulic lifts onsite? **Yes** **No** **Unknown**

SEE ATTACHED CERCLA INSPECTION REPORT (c. 1992)
(SOME DETAILS WERE NOT VERIFIED DURING THE SITE VISIT


2903 S. CEDAR AVENUE
E Hardy Ave
S Golden State Blvd
Golden State Fdwy Rd
©2010 Google
E North Ave
Google

WILBUR & ELLIS (60001049)

2903 S. CEDAR STREET
FRESNO, CA 93725
FRESNO COUNTY
SITE TYPE: EVALUATION

PROJECT MANAGER: MICHAEL PFISTER
SUPERVISOR: THOMAS KOVAC
OFFICE: SAN JOAQUIN & LEGACY LANDFILLS

- Summary
- Activities
- Community Involvement
- Map

Site Information

CLEANUP STATUS

INACTIVE - NEEDS EVALUATION AS OF 5/18/2009

SITE TYPE: EVALUATION
NATIONAL PRIORITIES LIST: NO
ACRES: 10 ACRES
APN: 487-020-65
CLEANUP OVERSIGHT AGENCIES:
DTSC - SITE CLEANUP PROGRAM<B < FONT>

ENVIROSTOR ID: 60001049
SITE CODE:
SPECIAL PROGRAM:
FUNDING: NOT APPLICABLE
ASSEMBLY DISTRICT: 31
SENATE DISTRICT: 16

Regulatory Profile

PAST USE(S) THAT CAUSED CONTAMINATION
NONE SPECIFIED

POTENTIAL CONTAMINANTS OF CONCERN
NONE SPECIFIED

POTENTIAL MEDIA AFFECTED
NONE SPECIFIED

Site History

Information available indicates that the facility was constructed in 1946 and that until 1952 fertilizer production activities were conducted. Thereafter information available indicates that pesticides were manufactured at the facility. Information available indicates that soil and groundwater contamination was detected in the 1980s. There were apparently some soil removal actions in the 1980s also. Review of a CERCLA SITE Inspection report dated 4/13/1992 and other available information indicates that a Preliminary Endangerment Assessment Report is needed

Purpose: CERCLA Site Inspection

Site: Wilbur & Ellis
2903 S. Cedar Avenue
Fresno, California
Fresno County

Site EPA ID Number: CAD028210920

URS Investigators: Kurt D. Anderson
Maryam Tasnif-Abbasi

Date of Inspection: April 13, 1992

Report Prepared By: Kurt D. Anderson

Report Reviewed By: Kenyon A. Larsen

Review Concurrence: William E. Ruthven

Report Date: December 14, 1992

Document Control No.: 62210.38.33.473 05.a.1

Submitted To: Jere Johnson
EPA Region IX
Work Assignment Manager

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1.0 Introduction

The United States Environmental Protection Agency (EPA), Region IX, under authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA), has tasked URS Consultants, Inc. (URS) to conduct a Site Inspection (SI) of Wilbur & Ellis in Fresno, Fresno County, California.

Wilbur & Ellis was identified as a potential hazardous waste site by EPA and entered into the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) on October 26, 1990 as part of a 1990/1991 investigation of pesticide formulation, manufacture, and application facilities. A Preliminary Assessment (PA) was conducted on the site, and a PA Summary Report summarizing site conditions was prepared. The purpose of the PA was to review existing information on the site and its environs to assess the threats, if any, posed to public health, welfare, or the environment and to determine if further action is warranted under CERCLA/SARA. After reviewing the PA Summary Report, EPA decided that further investigation of Wilbur & Ellis would be necessary to more completely evaluate the site using EPA's Hazard Ranking System (HRS) criteria. The HRS assesses the relative threat associated with the actual or potential releases of hazardous substances from the site. The HRS is the primary method of determining a site's eligibility for placement on EPA's National Priorities List (NPL). The NPL identifies sites at which EPA may conduct remedial response actions. This SI report is the result of URS' recent investigation.

1.1 Apparent Problem

During a 1981 California Regional Water Quality Control Board (RWQCB) inspection at the facility, RWQCB personnel noted that potentially contaminated surface runoff was being discharged to the yard drainage area. RWQCB requested that Wilbur & Ellis investigate the yard drainage area for potential pesticide contamination (2). In 1981, consultants for Wilbur & Ellis collected three soil samples and two groundwater samples and submitted them for organophosphorous and organochlorine pesticide analysis, and phenol, pentachlorophenol, metaldehyde, and carbamate analysis (3). Analytical results identified pesticides in three soil samples and in one groundwater sample. The detected pesticides included phosphamidon toxaphene, methoxychlor, thiodan (endosulfan), and lindane. Based on these results, Wilbur & Ellis excavated the yard drainage area to a depth ranging

from 1 to 4 feet below ground surface (bgs) and removed a significant portion of the surface soil in the yard drainage area (greater than 331 tons). In 1982, additional soil and groundwater samples were collected to assess the impact of soil removal activities. Pesticides were again detected in both the soil and the groundwater samples. Following a second soil removal event (approximately 50 tons) the California Department of Toxic Substances Control indicated that no further action was required (4,5,20,21). A full discussion of groundwater and soil sampling activities is provided in Sections 4.2.1 and 4.4.1, respectively.

2.0 Site Description

2.1 Location

Wilbur & Ellis (the facility, the site) is located at 2903 South Cedar Avenue in the city of Fresno, California (see Figure 2-1, Site Location Map). The geographical coordinates of the site are 36° 41' 37" North latitude and 119° 45' 7.5" West longitude (Township 14 South, Range 20 East, Section 24, Mount Diablo Baseline and Meridian). The facility is located in an industrial area of southern Fresno, between Highway 99 and the Southern Pacific Railroad. Although the site is in an industrial area, the land within 4 miles of the site is predominantly residential and agricultural (10).

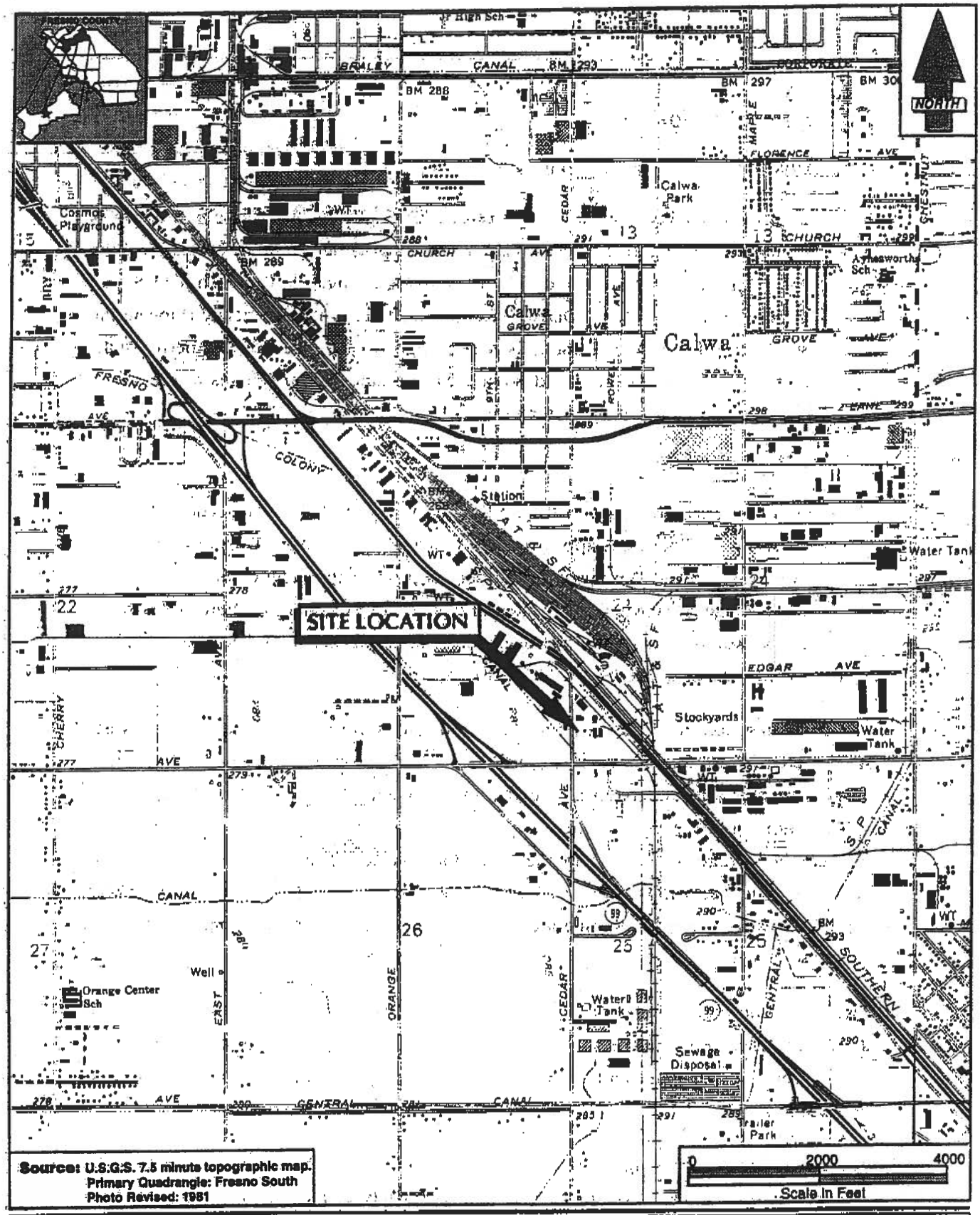
2.2 Site Description

The site is a triangular-shaped lot in the northeastern corner of the intersection of Cedar and North Avenues. The site is approximately 10 acres in size. Approximately half of the site is paved with asphalt. The unpaved southern section of the facility consists primarily of a yard drainage area where rainwater and site runoff collects. There are several buildings and warehouses on the site used for formulation activities and the storage of pesticides and fertilizers (see Figure 2-2, Facility Map) (1).

The southwest corner of the easternmost warehouse is the designated hazardous waste storage area for the facility. According to Wilbur & Ellis representatives, no hazardous wastes are regularly generated at the facility. However, products that do not meet specifications, have exceeded their expiration dates, or have been damaged during delivery or storage are placed in the hazardous waste storage area. The warehouse containing the hazardous waste storage area is completely enclosed and paved with asphalt. However, during URS' site reconnaissance visit, a hole in the asphalt in this area was observed (1).

Two large unprotected piles of formulation materials (bentonite and sulfur) are situated along the eastern edge of the site. All other products at the site are stored in drums, above ground tanks, bags, and other containers. There are no underground storage tanks at the site (1).

The facility obtains drinking water from an on-site well. Wilbur & Ellis is considered to be a water purveyor because greater than 25 people (facility employees) receive water from

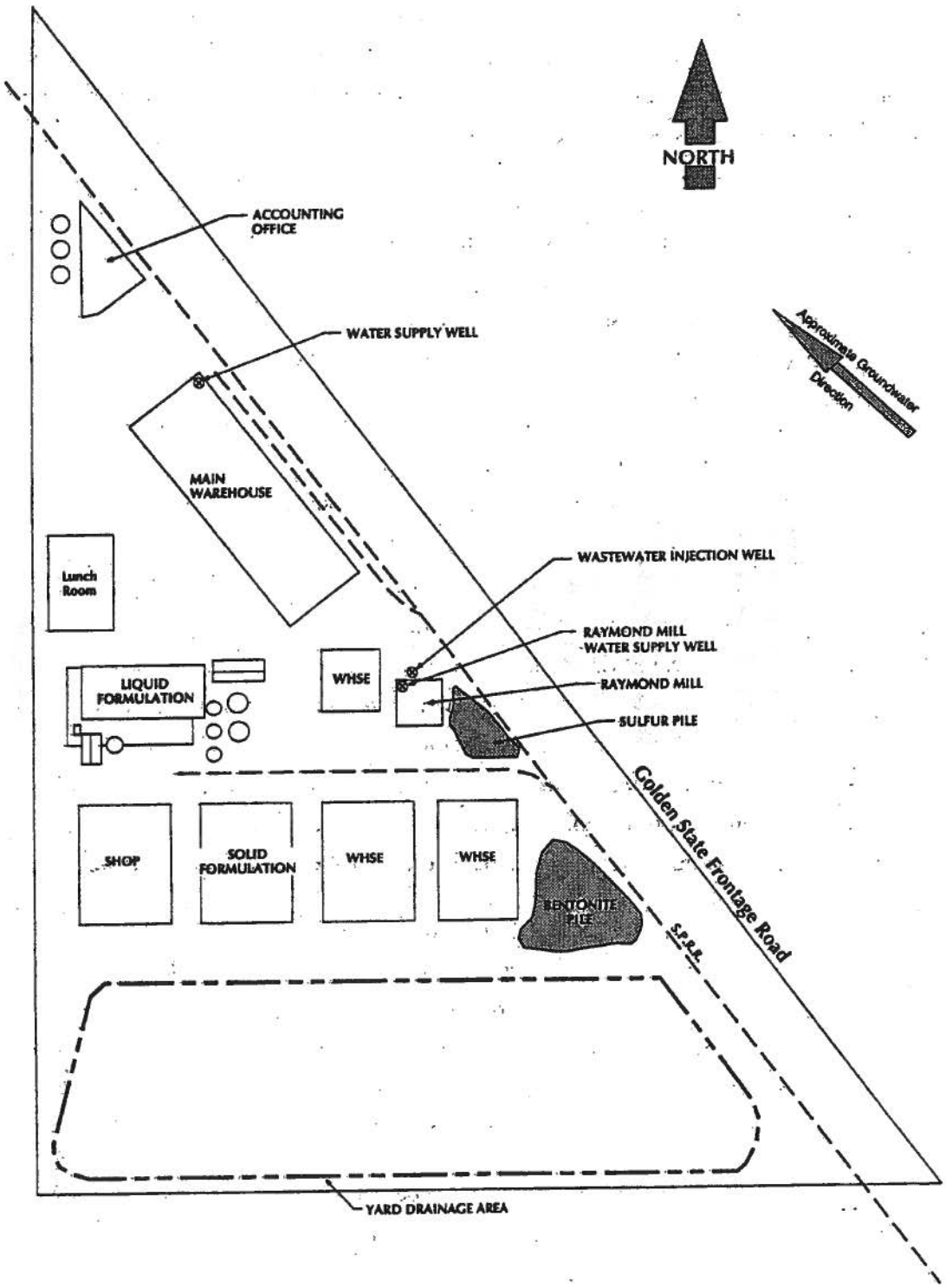


URS Consultants
4675 MacArthur Court, Suite 850
Newport Beach, CA 92660
August 6, 1992

Site Location Map

Wilbur & Ellis
2903 Cedar Ave., Fresno, CA

FIGURE
2-1



SOURCE: FOREMOST McKESSON REPORT, 1982

NOT TO SCALE

URS Consultants
4675 MacArthur Court, Ste. 850
Newport Beach, CA 92660
June 23, 1992

FACILITY MAP

Wilbur and Ellis Company
2903 Cedar Ave., Fresno, CA

FIGURE
2-2

this well. Accordingly, Wilbur & Ellis is required to sample this well on a quarterly basis for coliform bacteria. The well is approximately 125 feet deep. The water level in the well is approximately 55 feet bgs, and Wilbur & Ellis pumps from an interval screened beginning at approximately 85 feet bgs (1).

Two other wells at the site are connected in a closed-loop system: the Raymond Mill well and the wastewater injection well. The water drawn from the Raymond Mill well is pumped into the bentonite grinding mill and used as coolant. The water is then transferred directly into the wastewater injection well where it is pumped back into the ground (1). The Raymond Mill well is approximately 175 feet deep, and water is pumped from approximately 60 feet bgs (14).

There are approximately 52 employees at the facility: 18 work in the production portion of the facility, 5 in the production office, and 29 in the accounting office (1).

2.3 Operational History

Wilbur & Ellis has several facilities located throughout California. Wilbur & Ellis headquarters are located at 320 California Street, San Francisco, California. Wilbur & Ellis is owned and operated by its parent company, Knell Brothers. The 2903 S. Cedar Avenue facility was constructed in June 1946. From June of 1946 until 1952, the facility was exclusively involved in fertilizer production. In 1952, the facility began formulating pesticides (1). Formulation operations consist of blending and mixing chemicals together to form the finished product. No actual manufacturing of the chemicals occurs at the site.

Empty product drums generated during formulation operations are triple-rinsed prior to being returned to the manufacturer for recycling or to the Kettleman Hills Class I landfill. Drums designated for disposal at the landfill are placed in a roll-off bin situated on asphalt. Rinsate generated during the triple-rinsing process is recycled into pesticide/fertilizer formulations (1).

Wilbur & Ellis does not regularly generate hazardous waste. Periodically, the facility receives products that do not meet formulation specifications or that have reached their expiration dates. Such products are placed in the hazardous waste storage area until they are returned to the manufacturer.

2.4 Regulatory Involvement

United States Environmental Protection Agency Region IX (EPA)

The March 4, 1992 printout of the Resource Conservation and Recovery Act (RCRA) database listed Wilbur & Ellis as a large quantity generator. RCRA notification was given on August 15, 1980 (15). The on-site wastewater injection well is not required to have an EPA Underground Injection Permit because it is considered a Class 5 well. Class 5 wells are shallow injection wells that are not used to inject hazardous waste. The EPA Water Management Division typically maintains an inventory of Class 5 wells, but the Wilbur & Ellis well was not listed as of September 18, 1992. An application has been sent to the facility so that the injection well can be included in the EPA inventory (16).

California Regional Water Quality Control Board

Soil sampling was initiated at the facility in 1981 at the request of RWQCB following an inspection which noted that yard drainage may be impacting on-site soil (2). Based on the results, RWQCB requested additional sampling in 1982. RWQCB provided oversight and reviewed the reports concerning the sampling. In a letter dated January 18, 1983, RWQCB indicated that all of its concerns had been met and no further work would be necessary at the Wilbur & Ellis facility (21). RWQCB's only subsequent activity was to review plans submitted by Wilbur & Ellis to regrade the yard drainage area and build a tank farm (8). Wilbur & Ellis has recently received a "Waiver of Discharge Requirements" from RWQCB. An RWQCB inspection determined that the facility conducted operations in such a manner that RWQCB was willing to waive its discharge requirements (1).

California Department of Toxic Substances Control (DTSC)

DTSC received copies of the reports pertaining to the sampling conducted during the early 1980s. Conversations with agency representatives and a review of the agency files indicate that DTSC worked in conjunction with RWQCB and deferred to RWQCB's decisions (2). However, DTSC did submit a letter to Wilbur & Ellis dated October 18, 1983 that indicated the agency was satisfied with the excavations of contaminated soil and that no further action was necessary (20). As with RWQCB, the only subsequent activity has been to review the facility's remodeling plans.

Fresno County Department of Environmental Health (County Health)

County Health maintains files on the Wilbur & Ellis facility, but it is not involved in mitigation or enforcement actions (17).

3.0 Investigative Efforts

3.1 Previous Sampling

In response to a 1981 RWQCB inspection request, Wilbur & Ellis conducted a sampling event in the yard drainage area to determine if yard runoff had impacted groundwater and on-site soil (2). No pesticides were detected in the water sample taken from the on-site drinking water well. Low levels of pesticides (lindane and malathion) were detected in water drawn from the Raymond Mill well. Several pesticides were detected in shallow soil samples taken in the yard drainage area. In April 1982, Wilbur & Ellis conducted a removal of contaminated soil from the yard drainage area. Soil was excavated to 1 to 4 feet bgs (4).

A second sampling event was conducted in 1982 to assess the adequacy of the soil removal effort. During the second sampling event, low levels of contaminants were again detected in the soil. No contaminants were detected in the water sample from the Raymond Mill well during this round of sampling. Some low-levels of pesticides were detected in a groundwater sample taken at the bottom of boring #B. Additional soil was removed in the area where soil contamination was detected during the second sampling event (5). Other than the required sampling of the on-site drinking water well for coliform bacteria, no further soil or groundwater sampling has occurred at the site.

3.2 EPA Sampling

After reviewing the data for the Wilbur & Ellis site, EPA determined that soil and groundwater sampling would be necessary. Following this decision, URS prepared a field sample plan. The objectives of the sample plan were to further characterize the on-site soil contamination and to determine if site operations have impacted groundwater beneath the site.

Eight soil samples were to be taken from 5 and 10 feet bgs at four locations. Two off-site locations would provide background concentrations for contaminants found on-site. The other two locations would be within the yard drainage area. Soil samples were to be collected using the Geoprobe Model 8M soil probe unit.

A minimum of three groundwater samples were to be obtained either by using the Geoprobe Model 8M soil probe unit or by sampling existing wells near the site. If the Geoprobe was to be used, one hydraulically upgradient sample and two hydraulically

downgradient samples were to be obtained. The Raymond Mill well would also have been sampled. If existing wells were to be sampled, one upgradient well, one on-site well, and one downgradient well were to be sampled.

The sampling event has been delayed at EPA's request. Sampling will occur at a later stage of EPA investigation.

4.0 Hazard Ranking System Factors

4.1 Sources Of Contamination

There are three potential sources of contamination at the Wilbur & Ellis site: the roll-off bin, the hazardous waste area, and the yard drainage area.

One roll-off bin is situated on asphalt and is used to contain up to 10 cubic yards of solid waste, such as crushed containers. The roll-off bin is periodically emptied, and the contents are disposed of at a Class I disposal facility.

The hazardous waste storage area is in the southwestern corner of the easternmost warehouse at the site. At the time of the site visit, there were no placards, signs, or other indicators designating this as the hazardous waste storage area. There were, however, three drums and one sack of material on a wooden pallet in this area.

The yard drainage area is used to collect surface runoff from the site. The yard drainage area is located in the southern section of the site. The yard drainage area is approximately 6 acres in size. Soil samples collected from the yard drainage area during an investigation prompted by RWQCB in 1981 were contaminated with various pesticides. Soil contamination in the yard drainage area resulted from residual pesticide transported by rain or runoff to the yard drainage area (5). Results of soil sampling and applicable health-based benchmarks are presented in Section 4.4.3 of this report.

4.1.1 Waste Type and Quantity

Wilbur & Ellis does not regularly generate hazardous waste. Periodically, the facility receives products that do not meet formulation specifications or that have reached their expiration dates. Such products are placed in the hazardous waste storage area until returned to the manufacturer (1).

Empty drums generated during formulation operations are triple-rinsed and returned to the manufacturer for recycling, or are crushed and stored in a roll-off bin prior to transport to a Class I landfill. The bin holds approximately 10 cubic yards. Rinsate generated during the triple-rinsing process is recycled into pesticide/fertilizer formulations (1).

In April 1982, greater than 331 tons of pesticide-contaminated soil were excavated from the yard drainage area and transported to the Class I landfill at Big Blue Hills in Coalinga,

California (6). In September 1983, an additional 50 tons of pesticide-contaminated soil were removed by Chemical Waste Management and sent to a Class I disposal facility (27).

4.2 Groundwater Pathway

4.2.1 Hydrogeologic Setting

The Wilbur & Ellis facility is located along the mid-eastern boundary of the San Joaquin Valley. The San Joaquin Valley is bounded by the Sacramento/San Joaquin Delta to the north, the Sierra Nevada range to the east, Tehachapi Mountains to the south, and the Coast Ranges to the west. The San Joaquin Valley is a relatively flat, northwest/southeast trending, asymmetrical trough (7).

The regional subsurface features of the San Joaquin Valley consist of unconsolidated sedimentary deposits of Pliocene to Pleistocene age. These deposits overlie the pre-Tertiary consolidated rock of the Basement Complex. The Basement Complex rocks generally appear at approximately 3,500 feet bgs (7).

The unconsolidated deposits consist of interbedded lenses of clay, silt, sand, and gravel. The deposits are the result of erosion, primarily from the Sierra Nevada Mountains. However, some deposits along the western side of the valley originated from the Coast Ranges. The unconsolidated deposits are divided into the Younger Alluvium and underlying Older Alluvium (7).

The Younger Alluvium occurs along the channels and floodplains of the current drainage pathways, and overlies the Older Alluvium. The Younger Alluvium is between 0 and 70 feet thick. It is lithologically similar to the Older Alluvium (7).

The Older Alluvium consists of interbedded lenses of moderately thick sand, silt, clay, and a few thin lenses of gravel. Some lacustrine and marsh deposits consisting of lenses of fine grained material such as silt, silty-clay, and clay appear within the Older Alluvium. The Older Alluvium generally appears as low alluvial fans and plains in most of the valley. Along the eastern portion of the valley the Older Alluvium appears as exposed terrace deposits (7).

Regional soils consist of clay, silt, and sand deposited as alluvial fans on the floor of the San Joaquin Valley. These deposits are characterized by a lack of lateral continuity; locally, interbedded units of clay, silt, and sand are truncated by thick beds of clean sand. The irregular grain size and degree of roundness of local soils cause the hydraulic properties

to vary widely; however, soils in the unsaturated zone appear to be moderately permeable (12).

The groundwater basin underlying the Wilbur & Ellis site is an unnamed alluvial aquifer. The aquifer is unconfined and is bounded by the San Joaquin River on the north, the Kings River on the south, and the Sierra Nevada Mountains on the east. The vertical extent of the basin varies seasonally. The aquifer is believed to extend more than 1,000 feet bgs in the Fresno area. EPA has designated this groundwater basin a sole source aquifer under Section 1424(e) of the Safe Drinking Water Act (9).

Regionally, groundwater generally occurs at a depth of 100 feet bgs and extends to the Basement Complex rocks. In the low alluvial fans, groundwater is known to occur at shallower depths (8). The groundwater levels in on-site wells average approximately 55 feet bgs (2).

The regional groundwater flow direction is toward the southwest. The groundwater flow direction throughout the San Joaquin Valley is subject to influence by water well pumpage. Well yields in the valley can be as much as 3,200 gallons per minute (gpm), and the average yield is 1,100 gpm (8).

4.2.2 Groundwater Targets

Groundwater within 4 miles of the Wilbur & Ellis facility is used for agricultural and domestic purposes. The 52 employees at Wilbur & Ellis obtain drinking water from an on-site well (1). Approximately 81,000 people receive drinking water drawn from wells within 4 miles of the facility. The majority of the drinking water is provided by two purveyors; the rest is supplied by private water wells and lesser purveyors (13,22,23,24). The two primary purveyors are the City of Fresno Water Department (Fresno Water) and the Bakman Water District. Fresno Water distributes drinking water to approximately 360,000 people from approximately 220 wells. Approximately 47 Fresno Water wells are within 4 miles of the site (23). The Bakman Water District provides drinking water to approximately 5,476 people from 13 wells, all of which are within 4 miles of the site. Drinking water from both purveyors is drawn exclusively from groundwater wells (23,24).

4.2.3 Groundwater Pathway Conclusion

Groundwater samples were collected from the on-site drinking water well and from the Raymond Mill well during a sampling investigation in 1981. Lindane and malathion were detected in the Raymond Mill well at concentrations of 0.3 micrograms per Liter (µg/L)

and 7 µg/L, respectively. The detected concentration of lindane is above its cancer risk screening concentration benchmark of 0.027 µg/L. The detected concentration of malathion was below its reference dose screening concentration benchmark of 700 µg/L (11). Pesticides were not detected in the on-site drinking water well. Analytical laboratory data sheets were not formally reported for these samples. A report summarizing the investigation field and laboratory procedures is not available. Hence, URS cannot evaluate the sampling or quality assurance methods and procedures associated with field and laboratory activities (4).

In May 1982, groundwater samples were collected from the Raymond Mill well and from the bottom of a boring installed during a subsurface investigation. Groundwater samples were analyzed for organochlorine and organophosphorous pesticides, and nitrophenols. Pesticides were not detected in the Raymond Mill well groundwater sample (5). Analytical results of the boring groundwater sample identified lindane at 2.8 µg/L, thiodan (endosulfan) at 2.2 µg/L, and phosphamidon at 616 µg/L. The detected concentration of phosphamidon was found to be an error caused by incorrect labeling of the laboratory standard. After re-analyzing the sample, a concentration of 1.0 µg/L of phosphamidon was detected (5,21,26). The detected concentration of lindane was above its cancer risk screening concentration of 0.027 µg/L. The reference dose screening concentration for endosulfan is 1.8 µg/L. There is no federal benchmark for phosphamidon listed in the U.S. EPA Chemical Data Matrix (11).

The sampling methods employed to obtain the boring groundwater sample do not meet current EPA Alternative Remedial Contracting Strategy standard operating procedures for groundwater sampling. The boring groundwater sample was collected by lowering a bailer down the annulus of the boring. The water was then allowed to settle for an unspecified amount of time, and laboratory analyses were performed on the unfiltered supernatant (5).

Groundwater from the Raymond Mill well was collected from the valve closest to the well pump. After purging the valve, groundwater was transferred directly to a prepared 1-gallon glass jar (5). The report summarizing the second Raymond Mill well sampling event and the boring groundwater sampling event indicates that the procedures for the sample analyses followed the methods specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," U.S. EPA, May, 1980. The report also indicates that field quality assurance samples were collected and analyzed, and that internal laboratory quality assurance methods were employed. Laboratory reports did not, however, include results

for field quality assurance samples (duplicate samples) or for method blanks, spiked samples, or laboratory duplicate samples (5).

Based on the groundwater sampling results, it is likely that a release of contaminants attributable to operations at the Wilbur & Ellis site has occurred to groundwater beneath the site. However, since background (hydraulically upgradient) groundwater samples have not been collected, the contaminants detected in groundwater beneath the site cannot be attributed to sources at the site. Based on previous groundwater sampling events, contaminants detected in groundwater have not impacted the on-site drinking water well or municipal drinking water wells within 4 miles of the site (4,5).

4.3 Surface Water Pathway

4.3.1 Hydrologic Setting

Surface water in the northern portion of the San Joaquin Valley is drained by the San Joaquin River, which empties into the Sacramento/San Joaquin Delta. The southern portion of the San Joaquin Valley drains via various tributaries to the south. These tributaries empty into evaporation ponds such as the Tulare and Buena Vista lakebeds (8).

The site is relatively level with only a slight slope toward the south. Runoff at the site flows along the slope into the yard drainage area where it infiltrates the soil or evaporates. The only surface water body near the site is the Fresno Colony Canal, an irrigation canal which runs along the southern perimeter of the facility. The Fresno Colony Canal is an intermittent irrigation ditch. The Fresno Colony Canal flows west of the city of Fresno and does not enter any other surface water body within 15 miles downstream of the site. The yard drainage area is between the facility and the irrigation canal (1,10).

4.3.2 Surface Water Targets

All drinking water in the vicinity of Wilbur & Ellis comes from groundwater (22,23,24). According to the EPA Geographic Information System, there are no sensitive environments within 15 miles downstream of the Wilbur & Ellis facility (13). The irrigation canal supplies water to agricultural lands in the vicinity of the site (10).

4.3.3 Surface Water Pathway Conclusion

The only surface water body near the site is an irrigation canal. There are no sensitive environments along the canal. Additionally, there are no drinking water intakes along the canal. The canal does provide water to agricultural lands in the vicinity of the site. Because the yard drainage area is between the operational portion of the facility and the canal, it is

unlikely that runoff from the site would impact water in this canal. There has been no known sampling of the irrigation canal sediments (1,10,13).

4.4 Soil Exposure and Air Pathway

4.4.1 Physical Conditions

Wilbur & Ellis is located on a triangular plot of land bordered by Cedar and North Avenues to the west and south, respectively. The Southern Pacific Railroad comprises the facility's eastern boundary. The site is relatively flat with little topographic relief. The northern portion of the facility (approximately 4 acres), where formulation operations take place, is paved with asphalt. The southern portion of the facility (approximately 6 acres) is the unpaved yard drainage area. The entire facility is surrounded by a chain-link fence. Surrounding land use is primarily agricultural, with some industry in the immediate vicinity of the site (1,10).

4.4.2 Soil and Air Targets

The nearest residential area to the Wilbur & Ellis site is greater than 0.5 miles north of the site (10). Approximately 70,000 people reside within 4 miles of the site (25). Wilbur & Ellis employs approximately 52 people (1). Table 4-1 lists the number of people residing within 4 miles of the facility. According to the EPA Graphical Information System, there are no sensitive environments within 4 miles of the site (13).

Table 4-1

Population within 4 miles of Wilbur & Ellis

Miles	Population
0 to 0.25	0
0.25 to 0.5	0
0.5 to 1	1,672
1 to 2	7,126
2 to 3	25,476
3 to 4	35,544
TOTAL	69,818

4.4.3 Soil Exposure and Air Pathway Conclusions

In 1981, three 1-foot bgs soil samples were collected from the yard drainage area and analyzed for organochlorine and organophosphorous pesticides, phenols, metaldehyde, pentachlorophenol, and carbamates (4). Samples were collected and analyzed at the request of RWQCB (2). Pesticides were detected in all three samples. Analytical results, including health-based benchmarks, are listed in Table 4-2. Analytical laboratory data sheets were not formally reported for these samples. A report summarizing the investigation field and laboratory procedures is also not available. Hence, URS cannot evaluate the sampling or quality assurance methods and procedures associated with field and laboratory activities (4). Based on the 1981 findings, Wilbur & Ellis excavated soil in the yard drainage area at depths of 1 to 4 feet bgs (4). In April 1982, approximately 331 tons of pesticide-contaminated soil were removed and disposed of at the Big Blue Hills Class I landfill, Coalinga, California.

In May 1982, Wilbur & Ellis collected additional soil samples in the yard drainage area to assess the effectiveness of the removal. Four soil borings were drilled and sampled at 1, 3, 5, 8, 15, 25, and 50 feet bgs. Only those samples collected at 1 foot bgs in each boring were submitted for organochlorine pesticides, organophosphorous pesticides, pentachlorophenol, metaldehyde, and carbamate analysis. Pesticides were detected in all four shallow (1-foot) samples. Detailed results, including health-based benchmarks, are listed in Table 4-2. According to the report summarizing soil sampling activities, samples were analyzed following the methods specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," U.S. EPA, May, 1980. The report also indicates that field quality assurance samples were collected and analyzed and that internal laboratory quality assurance methods were employed. Laboratory reports did not, however, include results for field quality assurance samples (duplicate samples) or for method blanks, spiked samples, or laboratory duplicate samples (5).

In September 1983, an additional 50 tons of soil were removed from the area where the second sampling event detected residual levels of pesticides in surface soils. No confirmation sampling was conducted following this second removal (27).

Table 4-2
Results of Soil Samples from the Wilbur & Ellis Yard Drainage Area (1 foot bgs)

Pesticide	Concentration Detected 1981	Concentration Detected May 1982	Health-Based Benchmark
lindane	NA	10	450 CR
thiodan (endosulfan)	200,000	0.3	29,000 RD
dieldrin	NA	0.6	36 CR
DDT	NA	0.5	1,700 CR
methoxychlor	2,600,000	0.15	2,900,000 RD
kelthane	NA	4	Not available
dibrom	NA	0.2	Not available
ethion	NA	0.07	290,000 RD
malathion	NA	0.2	12,000,000 RD
toxaphene	8,600,000		530 CR
parathion	NA	0.1	150,000 RD

All concentrations are in micrograms/kilogram (µg/Kg).
CR = cancer risk screening concentration
RD = reference dose screening concentration
NA = not analyzed

According to the EPA Chemical Data Matrix, the contaminants identified have low to moderate air mobility (11). The nearby residential population is low, and there are no sensitive environments within 4 miles of the site (1,13,25).

5.0 Emergency Response Considerations

The National Contingency Plan [40 CFR 300.415 (b) (2)] authorizes the Environmental Protection Agency to consider emergency response actions at those sites which pose an imminent threat to human health or the environment. For the following reasons, a referral to EPA's Region IX Emergency Response Section does not appear to be necessary at this time:

- Approximately 381 tons of pesticide-contaminated soil have been excavated and removed to a Class I landfill.
- Residual surface soil contamination does not exceed health-based benchmarks.
- The facility is not accessible to the general public.

6.0 Summary

Wilbur & Ellis is located at 2903 S. Cedar Avenue in the city of Fresno, California. The site is a triangular-shaped lot in the northeastern corner of the intersection of Cedar and North Avenues. The facility was constructed in June of 1946. From June of 1946 until 1952, the facility was exclusively involved in fertilizer production. In 1952, the facility began formulating pesticides and has continued pesticide formulation to the present time.

Approximately half of the site is paved with asphalt. The unpaved southern section of the facility consists of a yard drainage area where rainwater and site runoff collects. This yard drainage area covers the majority of the southern portion of the site. There are several buildings and warehouses on the site used for formulation activities and the storage of pesticides and fertilizers. The entire facility is enclosed by a chain-link fence.

Following a 1981 inspection by the California Regional Water Quality Control Board that noted yard runoff may be impacting on-site soil, Wilbur & Ellis conducted a soil and groundwater sampling event. The samples detected elevated levels of pesticides in soil and groundwater at the site. Greater than 331 tons of soil were removed. A second sampling event detected low levels of pesticides in the soil remaining on-site. Low levels of pesticides were also detected in a groundwater sample taken from the bottom of one of the borings. Both the Department of Toxic Substances Control and the California Regional Water Quality Control Board have indicated that no further action is necessary at the site .

The following are pertinent Hazard Ranking System factors associated with the Wilbur & Ellis site:

- Elevated levels of pesticides have been detected in on-site soil and groundwater beneath the site.
- Approximately 81,000 people drink groundwater within 4 miles of the site.
- There are 52 employees working on-site, all of which drink from an on-site groundwater well.
- The site is enclosed by a chain-link fence.
- There are 69,818 people residing within 4 miles of the site.

7.0 EPA Recommendation

	Initial	Date
Site Evaluation Accomplished under CERCLA		
Higher-Priority ESI under CERCLA	cyd	4/7/93
Lower-Priority ESI under CERCLA		
Defer to Other Authority (e.g., RCRA, TSCA, NRC)		

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FA00	WILBUR-ELLIS COMPANY	2903 S	CEDAR	FRESNO	93725	WILBUR	CLOSED UST FACILITY/NO CLOSURE REPORT
FA00	WILBUR-ELLIS COMPANY	2903 S	CEDAR	FRESNO	93725	WILBUR	CONTAMINATED SITE - MISC/DTSC LEAD
FA00	WILBUR-ELLIS COMPANY	2903 S	CEDAR	FRESNO	93725	WILBUR	LARGE HAZARDOUS MATERIALS HANDLER
FA00	WILBUR-ELLIS COMPANY	2903 S	CEDAR	FRESNO	93725	WILBUR	EXTREMELY HAZARDOUS SUBSTANCE HANDLER (E

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Wilbur - Ellis 2903 S Cedar, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No. **1**

Direction Photo Taken:

Looking south

Description:

Entrance to the site from Cedar Avenue.

Photo No. **2**

Direction Photo Taken:

Looking east

Description:

Agricultural chemical mixing, storage, sales and transportation.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Wilbur - Ellis 2903 S Cedar, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
3

Direction Photo Taken:

Looking east

Description:

South end of the warehouse area. Ag chemical storage and preparation for shipping.

Photo No.
4

Direction Photo Taken:

Looking east

Description:

Yard drainage area at the south end of the site.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Wilbur - Ellis 2903 S Cedar, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
5

Direction Photo Taken:

Looking south

Description:

Corner of Cedar and North Avenues and the Fresno Colony Canal located at the southwest corner of the site. Note the monitoring well in the left center of the frame.

Photo No.
6

Direction Photo Taken:

Looking east

Description:

View of the south end of the site along the Fresno Colony Canal and North Avenue. Note the Golden State Boulevard overpass over North Avenue, the BNSF tracks, and the Union Pacific tracks.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Wilbur - Ellis 2903 S Cedar, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
7

Direction Photo Taken:

Looking northeast

Description:

Yard drainage area from the southwest corner of the site.

Photo No.
8

Direction Photo Taken:

Looking north

Description:

East side of the site from the southeast corner. Note the BNSF rail spur.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Wilbur - Ellis 2903 S Cedar, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
9

Direction Photo Taken:

Looking north

Description:

View of the site from inside the fence at the southeast corner.

Photo No.
10

Direction Photo Taken:

Looking southwest

Description:

View looking across the BNSF rail spurs at "Raymond Mill". Reportedly there is one of two onsite water supply wells and a waste water injection well located in this area.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Wilbur - Ellis 2903 S Cedar, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
11

Direction Photo Taken:

Looking northwest

Description:

View of the main warehouse and storage area on the east side of the site.

Photo No.
12

Direction Photo Taken:

Looking northwest

Description:

East side of the accounting office at the north end of the site.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Wilbur - Ellis 2903 S Cedar, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
13

Direction Photo Taken:

Looking south

Description:

View of the west side of the accounting office and the main site entrance along Cedar Avenue at the north end of the site.

HST PHASE I ENVIRONMENTAL SITE ASSESSMENT

Name of Site: WELBUR-ELLIS CO (AKA AGRICULTURAL MANUFACTURING CO) **EDR ID Number:** 1004439539

Date of Inspection: 3/16/10 **Requires Follow-up Site Visit:** Yes (No)

Requires Agency File Review: Yes (No)

Site Inspector: FRANK GEGUNDE **URS Office:** FRESNO

Please take digital photographs during the reconnaissance. Please catalog the pictures - a sheet is attached for your use.

1. **Facility name** and address including zip code and county

AGRICULTURAL MANUFACTURING CO (FORMERLY WELBUR-ELLIS)
4106 S. CEDAR
FRESNO, CA 93725
County: FRESNO

2. **Site layout**: Prepare or obtain a sketch of site if needed.

Site Acreage: ~10 AC

Site Buildings:

Name	Number of stories	Dimensions	Square Footage	Year Built
2 OFFICE BUILDINGS				
3 SHOP BUILDINGS				
1 PARKING SHED; 1 COVERED MACHINE & LATHE AREA				
1 CHEMICAL STORAGE HUT; SEVERAL STORAGE CARGO CONTAINERS				
2 MOBILE HOME OFFICES				

3. The **general topography** of the site area is:

(slightly) / relatively / very flat / (rolling) / hilly

with surface drainage appearing to flow to the N S (E) W

4. Are the following located on or **adjacent to the subject site**?

Surface water: SUBJECT SITE HAS BEEN GRADED TO DRAIN INTO
Wetlands: NO INTO A PONDING AREA AT THE EAST
Floodplains: NO END; SOIL IS MOUNDED IN THE
Parklands: NO N/E CORNER
Sensitive habitats: NO

5. Please list **current visible onsite activities**:

AG SPRAY TANK MANUFACTURE WITH SOME CHEMICAL STORED ONSITE; A TRUCKING COMPANY PARKS SEMI-TRUCKS ONSITE; AND MURRAY'S ASPHALT SERVICE (PAVING COMPANY)

Is equipment washed onsite? YES
Is maintenance conducted onsite? If so, what types? YES - ALL TYPES
Is fueling conducted onsite? UNKNOWN

6. **Site Area:**
General site area is (circle) residential commercial light industrial heavy industrial rural
other_____

Identify adjacent roadways and properties. Indicate any current surrounding land uses that have the potential to impact the site.

North CALAVERAS CEMENT; A-1 FENCE COMPANY
CENTRAL AVENUE

South OLD DOMINION TRUCK TERMINAL; VACANT

East BNSF RR TRACKS; KENDER MORGAN BULK FUEL DEPOT
(FORMERLY CHEVRON FUEL TERMINAL)

West CEDAR AVENUE; AGRICULTURE; RURAL RESIDENCES

7. Observations of potential environmental issues: (stressed vegetation, indications of liquid or solid waste dumping or disposal, discolored flowing or ponded waters, evidence of groundwater monitoring wells or remedial activities, abnormal odors, the presence of unnatural fill material or soil grading):
NONE

8. **Utilities-list all visable utility services (power lines, meters etc)**
Electric Service by: PG&E
Gas Service by: THE GAS COMPANY
Water Service by: CITY OF FRESNO
Wastewater Service by: CITY OF FRESNO
Steam by: NONE

9. **Onsite Aboveground and Underground Storage Tanks**; complete the table below. Be sure to include the tank locations on the site sketch!

Are there any ASTs/~~USTs~~, active or inactive, present at the site currently? YES, formerly? YES

NO USTs OBSERVED OR REPORTED

UST (U) or AST (A)	Tank Size	Contents	Installation Date	Tank Material	Visible Staining	Registration	Active Removed Closed or
U (A)	MULTIPLE ASTs				(Y) N	Y / N	
U / A	SITE MAYS AG SPRAY RIGS; A				Y / N	Y / N	
U / A	PAVING COMPANY ALSO USES				Y / N	Y / N	

THE BACK 1/2 OF THE SITE; A TRUCKING COMPANY MAINTAINS SPACE FOR PARKING AND TRUCK MAINTENANCE ONSITE = LOTS OF ASTs, INCLUDING PROPANE.

U / A _____ _____ _____ _____ Y / N Y / N _____

10. What is the condition of the tanks as indicated by visual inspection etc.? VARIES; SOME TANKS ARE NEW; SOME ARE OLD & COLLAPSING

11. Have there been any releases? YES; SEE PHOTOS OF THE BACK LOT (OIL STAINED SOIL) - FROM THE PAVING COMPANY

To whom were the releases reported? NO - DOUBTFUL

What is status of release investigation? NONE

12. **ASBESTOS**

Is there known asbestos onsite? **Yes** **No** **Unknown**

Was an asbestos survey conducted and what were the results? _____

13. **HAZARDOUS CHEMICALS**

Does the site or facility currently store or use hazardous chemicals? **Yes** **No** **Unknown**

Indicate **primary** chemicals, raw materials and petroleum used, generated stored, released,

Chemical	Quantity	Location/Bldg. ID	Condition	Pathways
SOME AG PESTICIDES + HERBICIDES; MOTOR OIL AND USED MOTOR OIL; SOLVENTS; PAINT				

14. **SOLID WASTE GENERATION**

Does the site or facility currently generate solid wastes? **Yes** **No** **Unknown**

General Plant Trash consists of (Circle): Office Paper; Breakroom Waste; General Packaging; Restroom Wastepaper;

Other: METAL SCRAP

Accumulated in: compactor? Dumpster? located: N S E W of the building. - SEVERAL LOCATIONS

Hauled off by: CITY OF FRESNO

15. **HAZARDOUS WASTES**

Does the site or facility currently generate hazardous wastes? **Yes** **No** **Unknown**

Where are the wastes disposed? USED MOTOR OIL; COOLANT; OTHER?

Were any wastes observed that might meet the definition of hazardous waste but have not been tested to be hazardous or are not handled as hazardous? No if so, describe:

16. **PCBs**

Identify the presence of PCB contamination including the presence of potential PCB electrical or other equipment.

Equipment	Owner	Condition	PCB-content	Serial #	Pathways
UNKNOWN AMOUNT; 1 PAD-MOUNT TRANSFORMER LOCATED ON THE NORTH SIDE OF SITE WEST OF THE PARKING SHED;					

17. **DRINKING WATER**

What is source of drinking water at the site? CITY OF FRESNO

What is source of process water for the site? n/a or N/A

What is the source of drinking water for surrounding properties? CITY OF FRESNO

Are there any wells known to exist at the site? No, Describe

If wells are used for drinking water at the site, obtain water quality data N/A

Describe any onsite surface water resources: none or NONE

18. **WASTEWATER**

Does the site or facility currently generate wastewater? **Yes** **No** **Unknown**

Describe the type and volume of wastewater that is generated (sanitary, non-contact, process, etc.)

OFFICE + SHOP RESTROOMS

Is any wastewater treatment conducted (e.g. pH adjustment, equalization, grease trap, DAF, etc.? No

if so, describe:

Where is wastewater discharged:			Does a Permit Exist?	
Surface water discharges	Yes	No	Yes	No
Land application discharges	Yes	No	Yes	No
Deep well injection	Yes	No	Yes	No
Discharge to municipal system	Yes	No	Yes	No
Impoundments	Yes	No	Yes	No
Septic systems	Yes	No	Yes	No

describe as appropriate

Any evidence of groundwater wells, cisterns, or septic tanks? if so describe:

NO

19. **STORMWATER**

Describe how stormwater is managed: SHEET RUN OFF TO THE EAST END OF SITE

Does the stormwater flow to a combined sewer? NO

Does water run-off from neighboring facilities and have potential to impact this facility? NO

20. **WETLANDS**

Any known/delineated wetlands at the site? NO, Indicate size, location (indicate on sketch), and description.

21. **AIR EMISSIONS**

Does the site or facility currently generate Air Emissions? **Yes** (**No**) **Unknown**

Describe each piece of fuel burning equipment at the facility (e.g. manufacturer, heat input capacity, HP, installation date, etc.)

22. **GROUNDWATER**

Is there known groundwater contamination at this facility? NO

If yes, list the contaminants:

Are there groundwater monitoring wells at this facility? NONE OBSERVED

Where are these wells located?

Are regulatory agencies involved with monitoring? N/A

Status of investigation/remediation program?

23. **SPILLS**

Has this site or facility had spills or leaks of hazardous wastes, PCBs, hazardous substances, or chemicals used at the facility? **Yes** **No** **Unknown** – NONE REPORTED

Complete the following information for spills which have occurred:

Date	*Substance Spilled*	*Spill Location*	*Cleaned Up*	*Reported*
_____	_____	_____	**Yes** **No**	**Yes** **No**
_____	_____	_____	**Yes** **No**	**Yes** **No**

24. **USED OIL**

Does this facility generate used oil? YES

Describe the types and sources of used oil generated: USED MOTOR OIL FROM TRUCK MAINTENANCE

Are all containers of used oil labeled accordingly? YES

Describe how and where used oil is stored and handled:

DRUMS ON THE GROUND – DISPOSAL?

25. **OTHER**

Are any pesticides or herbicides stored or used onsite? **Yes** **No** **Unknown**

Are lead acid batteries stored or used onsite? **Yes** **No** **Unknown**

Is there ozone depleting substances (e.g., freons) containing equipment at the facility? **Yes** **No** **Unknown**

Is it maintained by onsite personnel? **Yes** **No** **Unknown** N/A

Are fork lift trucks or any other hydraulic equipment maintained onsite? **Yes** **No** **Unknown**

Are there any hydraulic lifts onsite? **Yes** **No** **Unknown**

SITE IS LISTED AS AN EXTREMELY HAZARDOUS SUBSTANCE HANDLER IN EDR; NO VIOLATIONS REPORTED; OIL STAINS OBSERVED IN SOIL ON THE BACK (EAST SIDE) OF THE SITE MAY BE INSIGNIFICANT IF REPORTED TO AGENCIES

E Central Ave
S Cedar Ave
4106 S Cedar Ave, Fresno, CA 93725
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Google

FA02	AGRICULTURAL MANUFAC	4106 S	CEDAR	FRESNO	93725	SPROTT AUTO REPAIR/MAINTENANCE MODEL PLAN
FA02	AGRICULTURAL MANUFAC	4106 S	CEDAR	FRESNO	93725	SPROTT HAZARDOUS WASTE GENERATOR (CESQG)
FA02	WILBUR-ELLIS COMPANY	4106 S	CEDAR	FRESNO	93725	WILBUR· EXTREMELY HAZARDOUS SUBSTANCE HANDLER (E
FA02	WILBUR-ELLIS COMPANY	4106 S	CEDAR	FRESNO	93725	WILBUR· HAZ MAT DISCLOSURE/CLOSED SITE

JUAN (JOHN) CABRERA
MANAGER

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MOBILE (559) 281-1050

AGRICULTURAL MANUFACTURING COMPANY INC.
AMC
SPRAYERS

4106 S. CEDAR AVE.
FRESNO, CA 93725

E-MAIL: jcabrera@agmanco.com
WEB SITE: www.agmanco.com

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Wilbur – Ellis Company (aka Agricultural Manufacturing Co) 4106 S Cedar, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
1

Direction Photo Taken:

Looking north

Description:

The site is currently occupied by Agricultural Manufacturing Company (AMC). The office is located in the northwest corner of the site.

Photo No.
2

Direction Photo Taken:

Looking west

Description:

AMC manufactures agricultural spray equipment like these near the west end of the site. Note Cedar Avenue in the background

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Wilbur – Ellis Company (aka Agricultural Manufacturing Co) 4106 S Cedar, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
3

Direction Photo Taken:

Looking southeast

Description:

Propane is used to fuel forklifts used onsite.

Photo No.
4

Direction Photo Taken:

Looking east

Description:

Parking shed and storage hut located on the north side of the site.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Wilbur – Ellis Company (aka Agricultural Manufacturing Co) 4106 S Cedar, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
5

Direction Photo Taken:

Looking southwest

Description:

Machine shop located in the center of the site. This is one of four workshops locate onsite.

Photo No.
6

Direction Photo Taken:

Looking southwest

Description:

The site is also occupied by Murray's Asphalt Service. Chemical and paint storage near the middle of the site.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Wilbur – Ellis Company (aka Agricultural Manufacturing Co) 4106 S Cedar, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
7

Direction Photo Taken:

Looking east

Description:

Low area at the east end of the site. The BNSF tracks and the Kinder Morgan (Chevron) fuel terminal are beyond.

Photo No.
8

Direction Photo Taken:

Looking west

Description:

Mounded soil in the northeast corner of the site apparently excavated from the adjacent low spot.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Wilbur – Ellis Company (aka Agricultural Manufacturing Co) 4106 S Cedar, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
9

Direction Photo Taken:

Looking south

Description:

View of the east end of the site from the northeast corner. Note the BNSF tracks adjacent to the site.

Photo No.
10

Direction Photo Taken:

Looking west

Description:

View from the southeast corner of the site. Note the piles of asphalt debris in the low spot.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Wilbur – Ellis Company (aka Agricultural Manufacturing Co) 4106 S Cedar, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
11

Direction Photo Taken:

Looking southwest

Description:

Oil-stained soil near some of the Murray's Asphalt Service equipment along the south fence. Note the 5-gallon buckets of oil near the fence.

Photo No.
12

Direction Photo Taken:

Looking southwest

Description:

Spray equipment manufactured, serviced, and sold by AMC.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Wilbur – Ellis Company (aka Agricultural Manufacturing Co) 4106 S Cedar, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
13

Direction Photo Taken:

Looking west

Description:

A trucking company rents parking space on the southwest side of the site.

Photo No.
14

Direction Photo Taken:

Looking north

Description:

One of the shop buildings is used for truck maintenance. Used oil, filters and other potentially hazardous materials were observed in this area.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Wilbur – Ellis Company (aka Agricultural Manufacturing Co) 4106 S Cedar, Fresno, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-16-10

Photo No.
15

Direction Photo Taken:

Looking northwest

Description:

Mobile home used by the trucking company as an office.

Photo No.
16

Direction Photo Taken:

Looking east

Description:

View of the site from the south entrance. The large ASTs in the background are located at the Kinder Morgan fuel terminal beyond the site and BNSF tracks.

HST PHASE I ENVIRONMENTAL SITE ASSESSMENT

Name of Site: Corcoran Sanitary Landfill

Date of Inspection: 3/17/10

Site Inspector: T. Pender

EDR ID Number: S102360526

Requires Follow-up Site Visit: Yes **No**

Requires Agency File Review: Yes **No**

URS Office: Fresno

Please take digital photographs during the reconnaissance. Please catalog the pictures - a sheet is attached for your use.

1. **Facility name** and address including zip code and county

Corcoran Sanitary Landfill
6061 Nevada Ave
Corcoran, CA 93212 (or 91206)
County: Kings

2. **Site layout**: Prepare or obtain a sketch of site if needed.

Site Acreage: 98

Site Buildings: Ø

Name	Number of stories	Dimensions	Square Footage	Year Built

3. The **general topography** of the site area is:

slightly / relatively / very flat / rolling / hilly

with surface drainage appearing to flow to the N S E W

4. Are the following located on or **adjacent to the subject site**?

Surface water: Ag Canals on North & East
Wetlands: ? Corcoran Irrigation District Water Storage Reservoir to North (no visible water)
Floodplains: no
Parklands: no
Sensitive habitats: ? Reservoir

5. Please list **current visible onsite activities**:

Closed Solid Waste Disposal Site

Is equipment washed onsite? no
Is maintenance conducted onsite? If so, what types? no
Is fueling conducted onsite? no

6. **Site Area:**
General site area is (circle) residential commercial light industrial heavy industrial (rural)
other_____

Identify adjacent roadways and properties. Indicate any current surrounding land uses that have the potential to impact the site.

North Nevada Ave, Pureguo-Corcoran Site, Corcoran ID: Water Storage Reservoir

South Ag land, ~~[illegible]~~ Residential

East Ag Canal, Ag Land

West Ag Land, Hwy 43

7. Observations of potential environmental issues: (stressed vegetation, indications of liquid or solid waste dumping or disposal, discolored flowing or ponded waters, evidence of groundwater monitoring wells or remedial activities, abnormal odors, the presence of unnatural fill material or soil grading):
Monitoring Wells

8. **Utilities-list all visable utility services (power lines, meters etc)**

Electric Service by:_____

Gas Service by:_____

Water Service by:_____

Wastewater Service by:_____

Steam by:_____

9. **Onsite Aboveground and Underground Storage Tanks**; complete the table below. Be sure to include the tank locations on the site sketch!

Are there any ASTs/USTs, active or inactive, present at the site currently? NO, formerly? NO

UST (U) or AST (A)	Tank Size	Contents	Installation Date	Tank Material	Visible Staining	Registration	Active Removed Closed or
U / A					Y / N	Y / N	
U / A					Y / N	Y / N	
U / A					Y / N	Y / N	

U / A _____ _____ _____ _____ Y / N Y / N _____

10. What is the condition of the tanks as indicated by visual inspection etc.? n/a

11. Have there been any releases? No

To whom were the releases reported? n/a

What is status of release investigation? n/a – GW Monitoring

12. **ASBESTOS**

Is there known asbestos onsite? **Yes** **(No)** **Unknown**

Was an asbestos survey conducted and what were the results? _____

13. **HAZARDOUS CHEMICALS**

Does the site or facility currently store or use hazardous chemicals? **Yes** **No** **Unknown**

Indicate **primary** chemicals, raw materials and petroleum used, generated stored, released,

Chemical	Quantity	Location/Bldg. ID	Condition	Pathways
Household Haz Waste		in Landfill		

14. **SOLID WASTE GENERATION**

Does the site or facility currently generate solid wastes? **Yes** **(No)** **Unknown**

General Plant Trash consists of (Circle): Office Paper; Breakroom Waste; General Packaging; Restroom Wastepaper;

Other: _____

Accumulated in: compactor? Dumpster? located: N S E W of the building.

Hauled off by: _____

15. **HAZARDOUS WASTES**

Does the site or facility currently generate hazardous wastes? **Yes** **(No)** **Unknown**

Where are the wastes disposed? _____

Were any wastes observed that might meet the definition of hazardous waste but have not been tested to be hazardous or are not handled as hazardous? no if so, describe:

16. **PCBs**

Identify the presence of PCB contamination including the presence of potential PCB electrical or other equipment.

Equipment	Owner	Condition	PCB-content	Serial #	Pathways
none					

17. **DRINKING WATER**

What is source of drinking water at the site? ~~0~~

What is source of process water for the site? n/a or

What is the source of drinking water for surrounding properties? ~~0~~ wells

Are there any wells known to exist at the site? no, Describe

If wells are used for drinking water at the site, obtain water quality data

Describe any onsite surface water resources: none or ~~0~~ none

18. **WASTEWATER**

Does the site or facility currently generate wastewater? **Yes** **No** **Unknown**

Describe the type and volume of wastewater that is generated (sanitary, non-contact, process, etc.)

Is any wastewater treatment conducted (e.g. pH adjustment, equalization, grease trap, DAF, etc.? no

if so, describe:

Where is wastewater discharged:			Does a Permit Exist?	
Surface water discharges	**Yes**	**No**	**Yes**	**No**
Land application discharges	**Yes**	**No**	**Yes**	**No**
Deep well injection	**Yes**	**No**	**Yes**	**No**
Discharge to municipal system	**Yes**	**No**	**Yes**	**No**
Impoundments	**Yes**	**No**	**Yes**	**No**
Septic systems	**Yes**	**No**	**Yes**	**No**

describe as appropriate

Any evidence of groundwater wells, cisterns, or septic tanks? if so describe:

no

19. **STORMWATER**

Describe how stormwater is managed: Sheetflow Runoff to Channels to Impoundments

Does the stormwater flow to a combined sewer? no

Does water run-off from neighboring facilities and have potential to impact this facility? unlikely

20. **WETLANDS**

Any known/delineated wetlands at the site? no, Indicate size, location (indicate on sketch), and description.

21. **AIR EMISSIONS**

Does the site or facility currently generate Air Emissions? **Yes** (**No**) **Unknown**

Describe each piece of fuel burning equipment at the facility (e.g. manufacturer, heat input capacity, HP, installation date, etc.)

22. **GROUNDWATER**

Is there known groundwater contamination at this facility? no

If yes, list the contaminants:

Are there groundwater monitoring wells at this facility? yes

Where are these wells located?

throughout Facility

Are regulatory agencies involved with monitoring? RWQCB

Status of investigation/remediation program? ongoing

23. **SPILLS**

Has this site or facility had spills or leaks of hazardous wastes, PCBs, hazardous substances, or chemicals used at the facility? **Yes** **No** **Unknown**

Complete the following information for spills which have occurred:

Date	*Substance Spilled*	*Spill Location*	*Cleaned Up*	*Reported*
_____	_____	_____	**Yes No**	**Yes No**
_____	_____	_____	**Yes No**	**Yes No**

24. **USED OIL**

Does this facility generate used oil? NO

Describe the types and sources of used oil generated: _____

_____

Are all containers of used oil labeled accordingly? _____

Describe how and where used oil is stored and handled:

_____

25. **OTHER**

Are any pesticides or herbicides stored or used onsite? **Yes** **No** **Unknown**

_____

Are lead acid batteries stored or used onsite? **Yes** **No** **Unknown**

Is there ozone depleting substances (e.g., freons) containing equipment at the facility? **Yes** **No** **Unknown**

Is it maintained by onsite personnel? **Yes** **No** **Unknown**

Are fork lift trucks or any other hydraulic equipment maintained onsite? **Yes** **No** **Unknown**

Are there any hydraulic lifts onsite? **Yes** **No** **Unknown**

Photo Log

Date: _____

Project: _____ Project Number: _____

Location / Site _____

URS Field Staff: _____

Photo Number	Direction of Photo	Location - Description

Page _____ of _____

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PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Corcoran Sanitary Landfill 6061 Nevada Ave, Corcoran, CA 92166	**URS Project No.** 27560811.53090100 **Date:** 3-17-10

Photo No.
1

Direction Photo Taken:

Looking east

Description:

View of the landfill site from Highway 43. Sign states that the site is managed by the Corcoran Irrigation District.

Photo No.
2

Direction Photo Taken:

Looking east

Description:

View of the north side of the landfill site abutting the Sweet Canal.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Corcoran Sanitary Landfill 6061 Nevada Ave, Corcoran, CA 92166	**URS Project No.** 27560811.53090100 **Date:** 3-17-10

Photo No.
3

Direction Photo Taken:

Looking south

Description:

View of the east side of the landfill from the northeast corner of the site.

Photo No.
4

Direction Photo Taken:

Looking west

Description:

View of the former borrow pit located at the north end of the site. The excavation is reportedly used as a water storage reservoir by the Corcoran Irrigation District.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Corcoran Sanitary Landfill 6061 Nevada Ave, Corcoran, CA 92166	**URS Project No.** 27560811.53090100 **Date:** 3-17-10

Photo No.
5

Direction Photo Taken:

Looking west

Description:

View of the south end of the landfill (beyond the fence). Note the lined drainage system to the left of the cap to control infiltration and runoff.

Photo No.
6

Direction Photo Taken:

Looking southwest

Description:

View showing several site monitoring wells on the north side of the former borrow pit.

HST PHASE I ENVIRONMENTAL SITE ASSESSMENT

Name of Site: Hanford Municipal Solid Waste Disposal Site

Date of Inspection: 3/17/10

Site Inspector: T. Pender

EDR ID Number: S101 049400

Requires Follow-up Site Visit: Yes (No)

Requires Agency File Review: (Yes) ~~No~~

URS Office: Fresno

Please take digital photographs during the reconnaissance. Please catalog the pictures - a sheet is attached for your use.

1. **Facility name** and address including zip code and county

Hanford Municipal Solid Waste Disposal Site
7803 Hanford Armona Rd
Hanford, CA 93230

County: Kings

2. **Site layout**: Prepare or obtain a sketch of site if needed.

Site Acreage: 131

Site Buildings:

Name	Number of stories	Dimensions	Square Footage	Year Built

3. The **general topography** of the site area is:

slightly / relatively / very flat / rolling / hilly

with surface drainage appearing to flow to the N S E W

4. Are the following located on or **adjacent to the subject site**?

Surface water: Ag Canal on East side of site

Wetlands: no

Floodplains: no

Parklands: no

Sensitive habitats: no

5. Please list **current visible onsite activities**:

Closed Solid Waste Facility, GW Monitoring, Remedial Activities

Is equipment washed onsite? no

Is maintenance conducted onsite? If so, what types? no

Is fueling conducted onsite? no

6. **Site Area:**
General site area is (circle) residential commercial light industrial heavy industrial rural
other

Identify adjacent roadways and properties. Indicate any current surrounding land uses that have the potential to impact the site.

North Hanford Armona Rd, Ag Land, Baker Commodities

South Kings Waste + Recycling Authority, South Valley Materials Inc. (Cement Plant) Keilnies Air Conditioning + Heating.

East Ag Land

West Ag Land, Hwy 43

7. Observations of potential environmental issues: (stressed vegetation, indications of liquid or solid waste dumping or disposal, discolored flowing or ponded waters, evidence of groundwater monitoring wells or remedial activities, abnormal odors, the presence of unnatural fill material or soil grading):
groundwater Monitoring Wells, remedial Activities

8. **Utilities-list all visable utility services (power lines, meters etc)**
Electric Service by: PG+E
Gas Service by: Gas Company
Water Service by: City
Wastewater Service by: 0
Steam by:

9. **Onsite Aboveground and Underground Storage Tanks**; complete the table below. Be sure to include the tank locations on the site sketch!

Are there any ASTs/USTs, active or inactive, present at the site currently? ~~no~~ yes, formerly? no

UST (U) or AST (A)	Tank Size	Contents	Installation Date	Tank Material	Visible Staining	Registration	Active Removed Closed or
U (A)	(2) 1000 gal	Condensate		Poly	Y / (N)	Y / N	Active
U / A					Y / N	Y / N	
U / A					Y / N	Y / N	

U / A _____ _____ _____ _____ Y / N Y / N _____

10. What is the condition of the tanks as indicated by visual inspection etc.? Well Good

11. Have there been any releases? Detections of VOCs in GW

To whom were the releases reported? RWQCB

What is status of release investigation? Ongoing Remediation System in place, Remediation program under Review

12. **ASBESTOS**

Is there known asbestos onsite? **Yes** **No** **Unknown**

Was an asbestos survey conducted and what were the results? _____

13. **HAZARDOUS CHEMICALS**

Does the site or facility currently store or use hazardous chemicals? **Yes** **No** **Unknown**

Indicate **primary** chemicals, raw materials and petroleum used, generated stored, released,

Chemical	Quantity	Location/Bldg. ID	Condition	Pathways
Household Haz Waste in Landfill				

14. **SOLID WASTE GENERATION**

Does the site or facility currently generate solid wastes? **Yes** **No** **Unknown**

General Plant Trash consists of (Circle): Office Paper; Breakroom Waste; General Packaging; Restroom Wastepaper;

Other: _____

Accumulated in: compactor? Dumpster? located: N S E W of the building.

Hauled off by: _____

15. **HAZARDOUS WASTES**

Does the site or facility currently generate hazardous wastes? **Yes** **No** **Unknown**

Where are the wastes disposed? _____

Were any wastes observed that might meet the definition of hazardous waste but have not been tested to be hazardous or are not handled as hazardous? NO if so, describe:

16. **PCBs**

Identify the presence of PCB contamination including the presence of potential PCB electrical or other equipment.

Equipment	Owner	Condition	PCB-content	Serial #	Pathways
Ø					

17. **DRINKING WATER**

What is source of drinking water at the site? Ø

What is source of process water for the site? n/a or

What is the source of drinking water for surrounding properties? unknown

Are there any wells known to exist at the site? _____, Describe

If wells are used for drinking water at the site, obtain water quality data

Describe any onsite surface water resources: none or

18. **WASTEWATER**

Does the site or facility currently generate wastewater? **Yes** **No** **Unknown**

Describe the type and volume of wastewater that is generated (sanitary, non-contact, process, etc.) Purge Water from Monitoring Wells,

Is any wastewater treatment conducted (e.g. pH adjustment, equalization, grease trap, DAF, etc.? no

if so, describe:

Where is wastewater discharged:			Does a Permit Exist?	
Surface water discharges	Yes	No	Yes	No
Land application discharges	Yes	No	Yes	No
Deep well injection	Yes	No	Yes	No
Discharge to municipal system	Yes	No	Yes	No
Impoundments	Yes	No	Yes	No
Septic systems	Yes	No	Yes	No

describe as appropriate Stormwater

Any evidence of groundwater wells, cisterns, or septic tanks? if so describe:

19. **STORMWATER**

Describe how stormwater is managed: Runoff to Impoundments, Berms around perimeter

Does the stormwater flow to a combined sewer? no

Does water run-off from neighboring facilities and have potential to impact this facility? no

20. **WETLANDS**

Any known/delineated wetlands at the site? NO, Indicate size, location (indicate on sketch), and description.

21. **AIR EMISSIONS**

Does the site or facility currently generate Air Emissions? (Yes) ~~No~~ **Unknown**

Describe each piece of fuel burning equipment at the facility (e.g. manufacturer, heat input capacity, HP, installation date, etc.)

Remediation Equipment

22. **GROUNDWATER**

Is there known groundwater contamination at this facility? Yes

If yes, list the contaminants:

VOCs Detected in GW

Are there groundwater monitoring wells at this facility? yes

Where are these wells located?

Throughout Property

Are regulatory agencies involved with monitoring? RWQCB

Status of investigation/remediation program? Ongoing

23. **SPILLS**

Has this site or facility had spills or ~~leaks~~ of hazardous wastes, PCBs, hazardous substances, or chemicals used at the facility? **Yes** **No** **Unknown**

Complete the following information for spills which have occurred:

Date	*Substance Spilled*	*Spill Location*	*Cleaned Up*	*Reported*
_____	_____	_____	**Yes** **No**	**Yes** **No**
_____	_____	_____	**Yes** **No**	**Yes** **No**

24. **USED OIL**

Does this facility generate used oil? NO

Describe the types and sources of used oil generated: _____

Are all containers of used oil labeled accordingly? _____

Describe how and where used oil is stored and handled:

25. **OTHER**

Are any pesticides or herbicides stored or used onsite? **Yes** **No** **Unknown**

Are lead acid batteries stored or used onsite? **Yes** **No** **Unknown**

Is there ozone depleting substances (e.g., freons) containing equipment at the facility? **Yes** **No** **Unknown**

Is it maintained by onsite personnel? **Yes** **No** **Unknown**

Are fork lift trucks or any other hydraulic equipment maintained onsite? **Yes** **No** **Unknown**

Are there any hydraulic lifts onsite? **Yes** **No** **Unknown**

Closed Solid Waste Facility, Engineered Cap over Landfill,

Photo Log

Date: _____

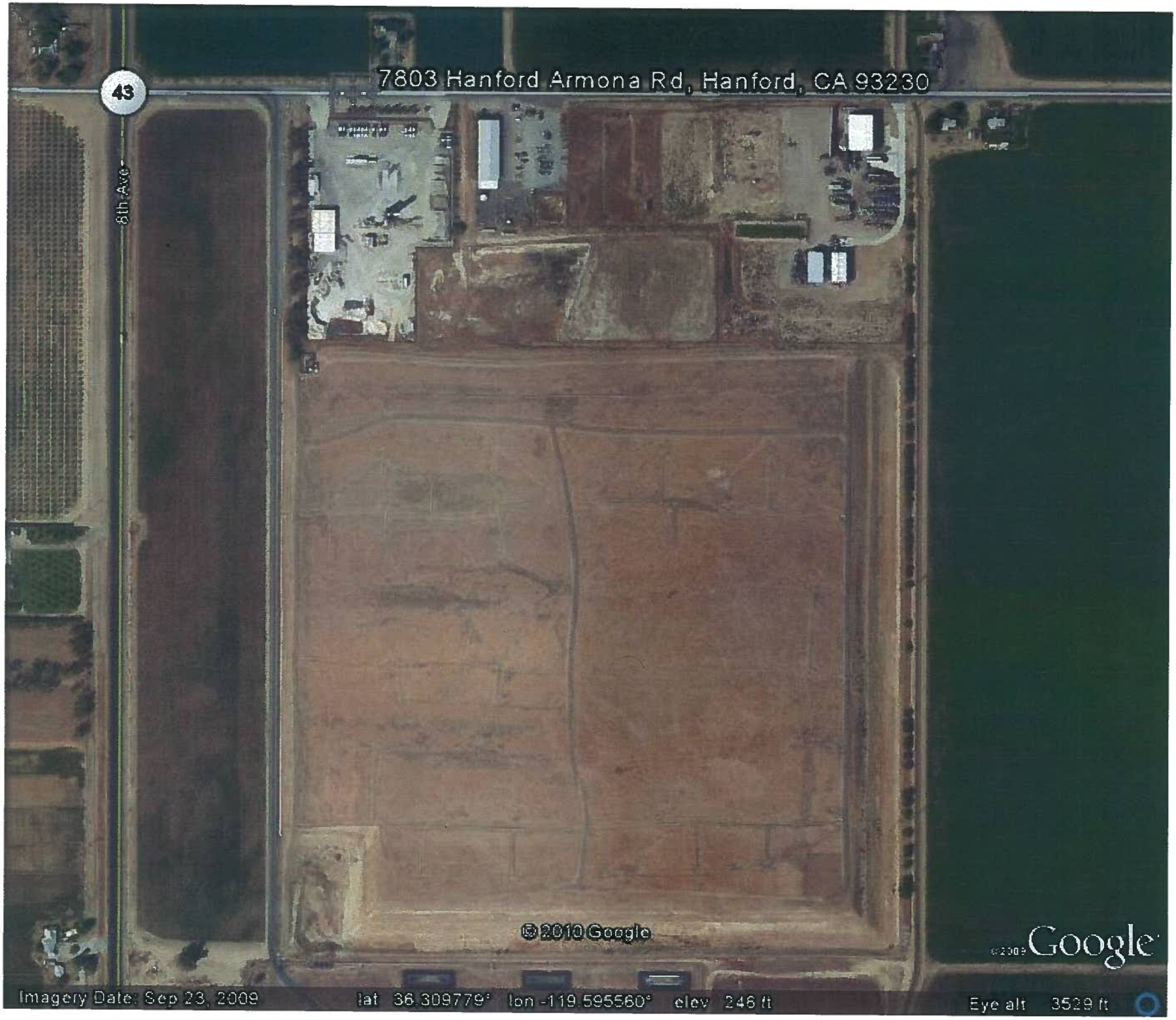
Project: _____ Project Number: _____

Location / Site _____

URS Field Staff: _____

Photo Number	Direction of Photo	Location - Description

Page _____ of _____


7803 Hanford Armona Rd, Hanford, CA 93230
43
8th Ave
© 2010 Google
Google
Imagery Date: Sep 23, 2009
lat 36.309779° lon -119.595560° elev 246 ft
Eye alt 3529 ft

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Hanford Municipal Solid Waste Disposal Site 7803 Hanford-Armona Road, Hanford, CA 93720	**URS Project No.** 27560811.53090100 **Date:** 3-17-10

Photo No.
1

Direction Photo Taken:

Looking south

Description:

Sign at the main entrance to the site along Hanford-Armona Road. Only a transfer station and a recycling center currently operate at the site. The landfill has been closed.

Photo No.
2

Direction Photo Taken:

Looking east

Description:

Groundwater (leachate) extraction wells in the main body of the landfill.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Hanford Municipal Solid Waste Disposal Site 7803 Hanford-Armona Road, Hanford, CA 93720	**URS Project No.** 27560811.53090100 **Date:** 3-17-10

Photo No.
3

Direction Photo Taken:

Looking south

Description:

South end of the site and the recycling center.

Photo No.
4

Direction Photo Taken:

Looking west

Description:

Storage tanks for the groundwater remediation system.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Hanford Municipal Solid Waste Disposal Site 7803 Hanford-Armona Road, Hanford, CA 93720	**URS Project No.** 27560811.53090100 **Date:** 3-17-10

Photo No.
5

Direction Photo Taken:

Looking west

Description:

Remediation system.

Photo No.
6

Direction Photo Taken:

Looking west

Description:

Another part of the remediation system.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Hanford Municipal Solid Waste Disposal Site 7803 Hanford-Armona Road, Hanford, CA 93720	**URS Project No.** 27560811.53090100 **Date:** 3-17-10

Photo No.
7

Direction Photo Taken:

Looking south

Description:

View of the west side of the landfill and the storm water impoundment.

Photo No.
8

Direction Photo Taken:

Looking south

Description:

Close-up of an extraction system wellhead.

HST PHASE I ENVIRONMENTAL SITE ASSESSMENT

Name of Site: Hanford Facility (aka) Baker Commodities Inc. **EDR ID Number:** S105256701

Date of Inspection: 3/17/10

Requires Follow-up Site Visit: Yes (No)

Requires Agency File Review: Yes (No)

Site Inspector: T. Pender

URS Office: Fresno

Please take digital photographs during the reconnaissance. Please catalog the pictures - a sheet is attached for your use.

1. **Facility name** and address including zip code and county

Hanford Facility (aka. Baker Commodities, Inc. - Kings)
7480 Hanford-Armona Rd
Hanford, CA 93230
County: Kings

2. **Site layout**: Prepare or obtain a sketch of site if needed.

Site Acreage: 71

Site Buildings:

Name	Number of stories	Dimensions	Square Footage	Year Built
~~Guard~~ Scale House				
Facility				

3. The **general topography** of the site area is:

slightly / (relatively) / very (flat) / rolling / hilly

with surface drainage appearing to flow to the N (S) E W

4. Are the following located on or **adjacent to the subject site**?

Surface water: Canal N of Site
Wetlands: no
Floodplains: no
Parklands: no
Sensitive habitats: no

5. Please list **current visible onsite activities**:

Rendering Plant, Cropland

Is equipment washed onsite? yes
Is maintenance conducted onsite? If so, what types? yes, general facility maint.
Is fueling conducted onsite? ~~no~~ yes, diesel

6. **Site Area:**
General site area is (circle) residential commercial (light industrial) heavy industrial rural
other_____

Identify adjacent roadways and properties. Indicate any current surrounding land uses that have the potential to impact the site.

North Ag Canal, Ag Fields

South Hanford Armona Rd, Closed Hanford Municipal Solid Waste Disposal Site Residential

East Ag Fields, Residential,

West Ag Fields

7. Observations of potential environmental issues: (stressed vegetation, indications of liquid or solid waste dumping or disposal, discolored flowing or ponded waters, evidence of groundwater monitoring wells or remedial activities, abnormal odors, the presence of unnatural fill material or soil grading):
Odor is not Pleasant, Monitoring Wells

8. **Utilities-list all visable utility services (power lines, meters etc)**

Electric Service by: PG&E

Gas Service by: Gas Company

Water Service by: ~~City of Hanford~~ / Onsite wells

Wastewater Service by: Onsite WWTP

Steam by:_____

9. **Onsite Aboveground and Underground Storage Tanks**; complete the table below. Be sure to include the tank locations on the site sketch!

Are there any (AST)/USTs, active or inactive, present at the site currently? yes, formerly? yes UST Removed

UST (U) or AST (A)	Tank Size	Contents	Installation Date	Tank Material	Visible Staining	Registration	Active Removed Closed or
U (A)	~~Ds.~~ 10,000 gal	Diesel			Y / N	Y / N	~~Removed~~ Active
U (A)		Saltwater			Y / N	Y / N	
U (A)		Salt			Y / N	Y / N	

U / A _____ _____ _____ _____ Y / N Y / N _____

10. What is the condition of the tanks as indicated by visual inspection etc.? good

11. Have there been any releases? unknown

To whom were the releases reported? Ø

What is status of release investigation? Ø

12. **ASBESTOS**

Is there known asbestos onsite? **Yes** **No** **Unknown**

Was an asbestos survey conducted and what were the results? _____

13. **HAZARDOUS CHEMICALS**

Does the site or facility currently store or use hazardous chemicals? **Yes** **No** **Unknown**

Indicate **primary** chemicals, raw materials and petroleum used, generated stored, released,

Chemical	Quantity	Location/Bldg. ID	Condition	Pathways
Diesel	~1000 gal	AST		

14. **SOLID WASTE GENERATION**

Does the site or facility currently generate solid wastes? **Yes** **No** **Unknown**

General Plant Trash consists of (Circle): Office Paper; Breakroom Waste; General Packaging; Restroom Wastepaper;

Other: _____

Accumulated in: compactor? Dumpster? located: N S E W of the building.

Hauled off by: _____

15. **HAZARDOUS WASTES**

Does the site or facility currently generate hazardous wastes? **Yes** **No** **Unknown**

Where are the wastes disposed? _____

Were any wastes observed that might meet the definition of hazardous waste but have not been tested to be hazardous or are not handled as hazardous? no if so, describe:

16. **PCBs**

Identify the presence of PCB contamination including the presence of potential PCB electrical or other equipment.

Equipment	Owner	Condition	PCB-content	Serial #	Pathways
Pole Mounted Transformers	PG&E	OK	unknown	unknown	

17. **DRINKING WATER**

What is source of drinking water at the site? Onsite Well

What is source of process water for the site? n/a or Onsite Well

What is the source of drinking water for surrounding properties? unknown

Are there any wells known to exist at the site? yes, Describe Onsite Well (3)

If wells are used for drinking water at the site, obtain water quality data ✓

Describe any onsite surface water resources: none or

18. **WASTEWATER**

Does the site or facility currently generate wastewater? **Yes** **No** **Unknown**

Describe the type and volume of wastewater that is generated (sanitary, non-contact, process, etc.)

Wastewater impoundment ponds East of Facility Bldgs.

Is any wastewater treatment conducted (e.g. pH adjustment, equalization, grease trap, DAF, etc.?

if so, describe:

Where is wastewater discharged:			Does a Permit Exist?	
Surface water discharges	Yes	No	Yes	No
Land application discharges	Yes	No	Yes	No
Deep well injection	Yes	No	Yes	No
Discharge to municipal system	Yes	No	Yes	No
Impoundments	Yes	No	Yes	No
Septic systems	Yes	No	Yes	No

describe as appropriate Water treated in impoundments, discharged to Ag Land.

Any evidence of groundwater wells, cisterns, or septic tanks? if so describe:

on site groundwater wells (3)

19. **STORMWATER**

Describe how stormwater is managed: Sheetflow, water at Facility goes to Treatment ponds

Does the stormwater flow to a combined sewer? no

Does water run-off from neighboring facilities and have potential to impact this facility? no

20. **WETLANDS**

Any known/delineated wetlands at the site? no, Indicate size, location (indicate on sketch), and description.

21. **AIR EMISSIONS**

Does the site or facility currently generate Air Emissions? (Yes) **No** **Unknown**

Describe each piece of fuel burning equipment at the facility (e.g. manufacturer, heat input capacity, HP, installation date, etc.)

Trucks, loaders, Forklifts, Facility

22. **GROUNDWATER**

Is there known groundwater contamination at this facility? no

If yes, list the contaminants:

Are there groundwater monitoring wells at this facility? ~~no~~ yes

Where are these wells located?

primarily around Wastewater ponds

Are regulatory agencies involved with monitoring? ~~no~~ RWQCB

Status of investigation/remediation program? ongoing monitoring

23. **SPILLS**

Has this site or facility had spills or leaks of hazardous wastes, PCBs, hazardous substances, or chemicals used at the facility? **Yes** **No** **Unknown**

Complete the following information for spills which have occurred:

Date	*Substance Spilled*	*Spill Location*	*Cleaned Up*	*Reported*
_____	_____	_____	**Yes** **No**	**Yes** **No**
_____	_____	_____	**Yes** **No**	**Yes** **No**

24. **USED OIL**

Does this facility generate used oil? NO

Describe the types and sources of used oil generated: _____

Are all containers of used oil labeled accordingly? _____

Describe how and where used oil is stored and handled:

25. **OTHER**

Are any pesticides or herbicides stored or used onsite? **Yes** **No** **Unknown**

Agricultural Application to Crops on property

Are lead acid batteries stored or used onsite? **Yes** **No** **Unknown**

Is there ozone depleting substances (e.g., freons) containing equipment at the facility? **Yes** **No** **Unknown**

Is it maintained by onsite personnel? **Yes** **No** **Unknown**

Are fork lift trucks or any other hydraulic equipment maintained onsite? **Yes** **No** **Unknown**

Are there any hydraulic lifts onsite? **Yes** **No** **Unknown**

Many Unlabeled drums behind facility, presumably for Grease (& Grease Bins)

Photo Log

Date: _____

Project: _____ Project Number: _____

Location / Site _____

URS Field Staff: _____

Photo Number	Direction of Photo	Location - Description

Page _____ of _____

7460 Hanford Armona Rd, Hanford, CA 93230
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PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Hanford Facility (aka Baker Commodities, Inc. – Kings) 7480 Hanford-Armona Rd, Hanford, CA 93230	**URS Project No.** 27560811.53090100 **Date:** 3-17-10

Photo No.
1

Direction Photo Taken:

Looking west

Description:

Baker Commodities is a disposal service for large animal carcasses such as deceased dairy cattle.

Photo No.
2

Direction Photo Taken:

Looking north

Description:

Scales and scale house at the plant entrance. The plant is the structure in the distance. The proposed alignment alternative lies along this driveway.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Hanford Facility (aka Baker Commodities, Inc. – Kings) 7480 Hanford-Armona Rd, Hanford, CA 93230	**URS Project No.** 27560811.53090100 **Date:** 3-17-10

Photo No.
3

Direction Photo Taken:

Looking north

Description:

View of the plant from the adjacent property.

Photo No.
4

Direction Photo Taken:

Looking east

Description:

"Grease" bins and drums stored near the northwest corner of the site.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Hanford Facility (aka Baker Commodities, Inc. – Kings) 7480 Hanford-Armona Rd, Hanford, CA 93230	**URS Project No.** 27560811.53090100 **Date:** 3-17-10

Photo No.
5

Direction Photo Taken:

Looking south

Description:

View along the west side of the plant area from the northwest corner. Note the ASTs with unknown contents in the left center of the frame.

Photo No.
6

Direction Photo Taken:

Looking south

Description:

One of several waste water containment ponds observed onsite. This pond appeared to be unlined. The building to the right is where animal carcasses are processed and ground. It appears that no rendering takes place onsite.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Hanford Facility (aka Baker Commodities, Inc. – Kings) 7480 Hanford-Armona Rd, Hanford, CA 93230	**URS Project No.** 27560811.53090100 **Date:** 3-17-10

Photo No.
7

Direction Photo Taken:

Looking south

Description:

Another waste water containment pond. This pond appeared to be lined.

Photo No.
8

Direction Photo Taken:

Looking south

Description:

One of several groundwater monitoring wells observed on or near the site.

HST PHASE I ENVIRONMENTAL SITE ASSESSMENT

Name of Site: Pond Mercantile

Date of Inspection: 3/17/10

Site Inspector: T. Pender

EDR ID Number: S104234191

Requires Follow-up Site Visit: Yes (No)

Requires Agency File Review: (Yes) No

URS Office: Fresno

Please take digital photographs during the reconnaissance. Please catalog the pictures - a sheet is attached for your use.

1. **Facility name** and address including zip code and county

Pond Mercantile
NE Corner Hwy 43 & Pond Rd
Pond (Delano), CA 93286
County: Kern

2. **Site layout**: Prepare or obtain a sketch of site if needed.

Site Acreage: 0.5

Site Buildings:

Name	Number of stories	Dimensions	Square Footage	Year Built
Store/house				
Sheds (2)				

3. The **general topography** of the site area is:

slightly / (relatively) / very — (flat) / rolling / hilly

with surface drainage appearing to flow to the (N) S E W

4. Are the following located on or **adjacent to the subject site**?

Surface water: no
Wetlands: no
Floodplains: no
Parklands: no
Sensitive habitats: no

5. Please list **current visible onsite activities**:

Convience Store, Groundwater Monitoring, SVE pilot test, Site Assessment

Is equipment washed onsite? no
Is maintenance conducted onsite? If so, what types? no
Is fueling conducted onsite? no

6. **Site Area:**
General site area is (circle) (residential) (commercial) light industrial heavy industrial rural
other_____

Identify adjacent roadways and properties. Indicate any current surrounding land uses that have the potential to impact the site.

North Alley, Residential

South Pond Rd, Equipment Shop, Residential, Abandoned Warehouse

East Vacant Lot, Residential, B Street

West Vacant Lot, Hwy 43, Railroad (BNSF)

7. Observations of potential environmental issues: (stressed vegetation, indications of liquid or solid waste dumping or disposal, discolored flowing or ponded waters, evidence of groundwater monitoring wells or remedial activities, abnormal odors, the presence of unnatural fill material or soil grading):
monitoring wells, SVE Pilot test underway

8. **Utilities-list all visable utility services (power lines, meters etc)**
Electric Service by: PG&E
Gas Service by: Gas Company
Water Service by: Onsite Well?
Wastewater Service by: 0
Steam by: 0

9. **Onsite Aboveground and Underground Storage Tanks**; complete the table below. Be sure to include the tank locations on the site sketch!

Are there any ASTs/USTs, active or inactive, present at the site currently? no, formerly? likely

UST (U) or AST (A)	Tank Size	Contents	Installation Date	Tank Material	Visible Staining	Registration	Active Removed Closed or
U / A	unknown	Gasoline			Y / N	Y / N	likely Removed
U / A					Y / N	Y / N	
U / A					Y / N	Y / N	

U / A _____ _____ _____ _____ Y / N Y / N _____

10. What is the condition of the tanks as indicated by visual inspection etc.? n/a

11. Have there been any releases? Gasoline to Soil & Groundwater

To whom were the releases reported? LWQCB

What is status of release investigation? Ongoing monitoring, site Assessment + SVE Pilot test

12. **ASBESTOS**

Is there known asbestos onsite? **Yes** **No** **Unknown**

Was an asbestos survey conducted and what were the results? _____

13. **HAZARDOUS CHEMICALS**

Does the site or facility currently store or use hazardous chemicals? **Yes** **No** **Unknown**

Indicate **primary** chemicals, raw materials and petroleum used, generated stored, released,

Chemical	Quantity	Location/Bldg. ID	Condition	Pathways

14. **SOLID WASTE GENERATION**

Does the site or facility currently generate solid wastes? **Yes** **No** **Unknown**

General Plant Trash consists of (Circle): Office Paper; Breakroom Waste; General Packaging; Restroom Wastepaper;

Other: _____

Accumulated in: compactor? Dumpster? located: N S E W of the building.

Hauled off by: South Tulare-Richgrove Refuse, Inc.

15. **HAZARDOUS WASTES**

Does the site or facility currently generate hazardous wastes? **Yes** **No** **Unknown**

Where are the wastes disposed? ~~Potential~~ Purge Water from GW Monitoring

Were any wastes observed that might meet the definition of hazardous waste but have not been tested to be hazardous or are not handled as hazardous? NO if so, describe:

16. **PCBs**

Identify the presence of PCB contamination including the presence of potential PCB electrical or other equipment.

Equipment	Owner	Condition	PCB-content	Serial #	Pathways

17. **DRINKING WATER**

What is source of drinking water at the site? onsite well ?

What is source of process water for the site? n/a or

What is the source of drinking water for surrounding properties? wells?

Are there any wells known to exist at the site? unknown, Describe Not Evident

If wells are used for drinking water at the site, obtain water quality data. ✓

Describe any onsite surface water resources: none or

18. **WASTEWATER**

Does the site or facility currently generate wastewater? **Yes** **No** **Unknown**

Describe the type and volume of wastewater that is generated (sanitary, non-contact, process, etc.)

Sanitary, purge water from GW monitoring

Is any wastewater treatment conducted (e.g. pH adjustment, equalization, grease trap, DAF, etc.? NO

if so, describe:

Where is wastewater discharged:			Does a Permit Exist?	
Surface water discharges	Yes	No	Yes	No
Land application discharges	Yes	No	Yes	No
Deep well injection	Yes	No	Yes	No
Discharge to municipal system	Yes	No	Yes	No
Impoundments	Yes	No	Yes	No
Septic systems	Yes	No	Yes	No

describe as appropriate Drums observed likely containing Soil & or Groundwater generated during site investigations

Any evidence of groundwater wells, cisterns, or septic tanks? if so describe:

not Evident

19. **STORMWATER**

Describe how stormwater is managed: Sheetflow runoff

Does the stormwater flow to a combined sewer? no

Does water run-off from neighboring facilities and have potential to impact this facility? no

20. **WETLANDS**

Any known/delineated wetlands at the site? NO, Indicate size, location (indicate on sketch), and description.

21. **AIR EMISSIONS**

Does the site or facility currently generate Air Emissions? **Yes** **No** **Unknown**

Describe each piece of fuel burning equipment at the facility (e.g. manufacturer, heat input capacity, HP, installation date, etc.)

22. **GROUNDWATER**

Is there known groundwater contamination at this facility? yes

If yes, list the contaminants:

Gasoline Constituents

Are there groundwater monitoring wells at this facility? yes

Where are these wells located?

South of Building (2 wells observed) total unknown

Are regulatory agencies involved with monitoring? yes, RWQCB

Status of investigation/remediation program? ongoing, GW Monitoring, SVE Pilot test underway, site Assessments/Investigations continue, lateral extents not yet determined.

23. **SPILLS**

Has this site or facility had spills or leaks of hazardous wastes, PCBs, hazardous substances, or chemicals used at the facility? **Yes** **No** **Unknown**

Complete the following information for spills which have occurred:

Date	*Substance Spilled*	*Spill Location*	*Cleaned Up*	*Reported*
_____	_____	_____	**Yes** **No**	**Yes** **No**
_____	_____	_____	**Yes** **No**	**Yes** **No**

24. **USED OIL**

Does this facility generate used oil? no

Describe the types and sources of used oil generated: _____

Are all containers of used oil labeled accordingly? _____

Describe how and where used oil is stored and handled:

25. **OTHER**

Are any pesticides or herbicides stored or used onsite? **Yes** **No** **Unknown**

Are lead acid batteries stored or used onsite? **Yes** **No** **Unknown**

Is there ozone depleting substances (e.g., freons) containing equipment at the facility? **Yes** **No** **Unknown**

Is it maintained by onsite personnel? **Yes** **No** **Unknown** A/C

Are fork lift trucks or any other hydraulic equipment maintained onsite? **Yes** **No** **Unknown**

Are there any hydraulic lifts onsite? **Yes** **No** **Unknown**

Location of removed dispensers / USTs not evident. Likely that dispensers were located outside front door of store (South side of Bldg) or even in empty lot to west.

Photo Log

Date: _____

Project: _____ Project Number: _____

Location / Site _____

URS Field Staff: _____

Photo Number	Direction of Photo	Location - Description

Page _____ of _____

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PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Pond Mercantile Hwy 43 and Pond Rd, Pond (Delano) CA 93280	**URS Project No.** 27560811.53090100 **Date:** 3-17-10

Photo No.
1

Direction Photo Taken:

Looking north

Description:

Front side of the site along Pond Road. Groundwater monitoring wells are located here.

Photo No.
2

Direction Photo Taken:

Looking north

Description:

View of the east side of the site at Pond Road and B Street.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Pond Mercantile Hwy 43 and Pond Rd, Pond (Delano) CA 93280	**URS Project No.** 27560811.53090100 **Date:** 3-17-10

Photo No.
3

Direction Photo Taken:

Looking east

Description:

View of the structure onsite and the vacant lot on the west side of the site.

Photo No.
4

Direction Photo Taken:

Looking northeast

Description:

Groundwater monitoring wells on the south side of the building along Pond Road.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Pond Mercantile Hwy 43 and Pond Rd, Pond (Delano) CA 93280	**URS Project No.** 27560811.53090100 **Date:** 3-17-10

Photo No.
5

Direction Photo Taken:

Aerial view

Description:

Close-up of a monitoring well on the south side of the building.

Photo No.
6

Direction Photo Taken:

Looking east

Description:

Unlabeled storage drums on the west side of the site structure. Contents of the drums is unknown.

HST PHASE I ENVIRONMENTAL SITE ASSESSMENT

Name of Site: Puregro - Corcoran

Date of Inspection: 3/17/10

Site Inspector: T. Pender

EDR ID Number: 1000202637 5106486075 5101272735

Requires Follow-up Site Visit: Yes (No)

Requires Agency File Review: (Yes) No

URS Office: Fresno

Please take digital photographs during the reconnaissance. Please catalog the pictures - a sheet is attached for your use.

1. **Facility name** and address including zip code and county

Puregro - Corcoran
6991 Nevada Ave
Corcoran, CA 93212
County: Kings

2. **Site layout**: Prepare or obtain a sketch of site if needed.

Site Acreage: 15

Site Buildings:

Name	Number of stories	Dimensions	Square Footage	Year Built
Warehouse	1			
Several Pads/Foundations				

3. The **general topography** of the site area is:

slightly / (relatively) / very (flat) / rolling / hilly

with surface drainage appearing to flow to the N (S) E W

4. Are the following located on or **adjacent to the subject site**?

Surface water: Ag Canal on North Side
Wetlands: Corcoran Irrigation District Water Storage Reservoir to North (no visible water)
Floodplains: no
Parklands: no
Sensitive habitats: ? Reservoir

5. Please list **current visible onsite activities**:

Closed Fertilizer & Pesticide Mixing Facility, GW Monitoring

Is equipment washed onsite? no
Is maintenance conducted onsite? If so, what types? no
Is fueling conducted onsite? no

6. **Site Area:**
General site area is (circle) residential commercial light industrial heavy industrial rural
other

Identify adjacent roadways and properties. Indicate any current surrounding land uses that have the potential to impact the site.

North Nevada Ave, Corcoran I.D. Water Storage Reservoir

South Ag Land

East Corcoran Sanitary Landfill (closed)

West Hwy 43, BNSF Railway, Ag Land

7. Observations of potential environmental issues: (stressed vegetation, indications of liquid or solid waste dumping or disposal, discolored flowing or ponded waters, evidence of groundwater monitoring wells or remedial activities, abnormal odors, the presence of unnatural fill material or soil grading):
Monitoring Wells,

8. **Utilities-list all visable utility services (power lines, meters etc)**
Electric Service by: PG&E
Gas Service by: Gas Company
Water Service by: Onsite Well? (abandoned?)
Wastewater Service by: -0-
Steam by:

9. **Onsite Aboveground and Underground Storage Tanks**; complete the table below. Be sure to include the tank locations on the site sketch!

Are there any ASTs/USTs, active or inactive, present at the site currently? no, formerly? unknown

UST (U) or AST (A)	Tank Size	Contents	Installation Date	Tank Material	Visible Staining	Registration	Active Removed Closed or
U / A	Likely ASTs	- Fertilizer			Y / N	Y / N	Removed
U / A		Water			Y / N	Y / N	
U / A					Y / N	Y / N	

U / A _____ _____ _____ _____ Y / N Y / N _____

10. What is the condition of the tanks as indicated by visual inspection etc.? n/a

11. Have there been any releases? DDT, Toxaphene, Nitrates, phenoxy herbicides, Sodium Chlorate

To whom were the releases reported? DTSC, RWQCB

What is status of release investigation? On going Monitoring, Soil Remediated by excavation and offsite disposal of buried waste & contaminated soil. Health Risk Assessment of Groundwater ongoing (2007.)

12. **ASBESTOS**

Is there known asbestos onsite? **Yes** **No** **Unknown**

Was an asbestos survey conducted and what were the results? _____

13. **HAZARDOUS CHEMICALS**

Does the site or facility currently store or use hazardous chemicals? **Yes** **No** **Unknown**

Indicate **primary** chemicals, raw materials and petroleum used, generated stored, released,

Chemical	Quantity	Location/Bldg. ID	Condition	Pathways

14. **SOLID WASTE GENERATION**

Does the site or facility currently generate solid wastes? **Yes** **No** **Unknown**

General Plant Trash consists of (Circle): Office Paper; Breakroom Waste; General Packaging; Restroom Wastepaper;

Other: _____

Accumulated in: compactor? Dumpster? located: N S E W of the building.

Hauled off by: _____

15. **HAZARDOUS WASTES**

Does the site or facility currently generate hazardous wastes? **Yes** **No** **Unknown**

Where are the wastes disposed? possible generation of purge water from GW Monitoring

Were any wastes observed that might meet the definition of hazardous waste but have not been tested to be hazardous or are not handled as hazardous? no if so, describe:

16. **PCBs**

Identify the presence of PCB contamination including the presence of potential PCB electrical or other equipment.

Equipment	Owner	Condition	PCB-content	Serial #	Pathways
Ø					

17. **DRINKING WATER**

What is source of drinking water at the site? ~~Well~~ n/a

What is source of process water for the site? n/a or

What is the source of drinking water for surrounding properties? unknown (likely wells)

Are there any wells known to exist at the site? no, Describe well location & status unknown

If wells are used for drinking water at the site, obtain water quality data

Describe any onsite surface water resources: none or

18. **WASTEWATER**

Does the site or facility currently generate wastewater? **Yes** **No** **Unknown**

Describe the type and volume of wastewater that is generated (sanitary, non-contact, process, etc.)

Purge water from Gw Monitoring?

Is any wastewater treatment conducted (e.g. pH adjustment, equalization, grease trap, DAF, etc.? no

if so, describe:

Where is wastewater discharged:			Does a Permit Exist?	
Surface water discharges	Yes	No	Yes	No
Land application discharges	Yes	No	Yes	No
Deep well injection	Yes	No	Yes	No
Discharge to municipal system	Yes	No	Yes	No
Impoundments	Yes	No	Yes	No
Septic systems	Yes	No	Yes	No

describe as appropriate Surface Impoundment closed during Soil Remediation

Any evidence of groundwater wells, cisterns, or septic tanks? if so describe:

19. **STORMWATER**

Describe how stormwater is managed: Sheetflow runoff

Does the stormwater flow to a combined sewer? no

Does water run-off from neighboring facilities and have potential to impact this facility? no

20. **WETLANDS**

Any known/delineated wetlands at the site? NO, Indicate size, location (indicate on sketch), and description.

21. **AIR EMISSIONS**

Does the site or facility currently generate Air Emissions? **Yes** **No** **Unknown**

Describe each piece of fuel burning equipment at the facility (e.g. manufacturer, heat input capacity, HP, installation date, etc.)

22. **GROUNDWATER**

Is there known groundwater contamination at this facility? yes

If yes, list the contaminants:

Nitrates, Arsenic

Are there groundwater monitoring wells at this facility? yes

Where are these wells located?

throughout property & offsite to South & West

Are regulatory agencies involved with monitoring? yes

Status of investigation/remediation program? ongoing GW Investigations for Health Risk assessments, Soil apparently Remediated to conditions appropriate for Commercial/Industrial Use

23. **SPILLS**

Has this site or facility had spills or leaks of hazardous wastes, PCBs, hazardous substances, or chemicals used at the facility? **Yes** **No** **Unknown**

Complete the following information for spills which have occurred:

Date	*Substance Spilled*	*Spill Location*	*Cleaned Up*	*Reported*
unknown	See Releases' Section		**Yes** **No**	**Yes** **No**
			Yes **No**	**Yes** **No**

24. **USED OIL**

Does this facility generate used oil? no

Describe the types and sources of used oil generated: _____

Are all containers of used oil labeled accordingly? _____

Describe how and where used oil is stored and handled:

25. **OTHER**

Are any pesticides or herbicides stored or used onsite? **Yes** **No** **Unknown**

Are lead acid batteries stored or used onsite? **Yes** **No** **Unknown**

Is there ozone depleting substances (e.g., freons) containing equipment at the facility? **Yes** **No** **Unknown**

Is it maintained by onsite personnel? **Yes** **No** **Unknown**

Are fork lift trucks or any other hydraulic equipment maintained onsite? **Yes** **No** **Unknown**

Are there any hydraulic lifts onsite? **Yes** **No** **Unknown**

Photo Log

Date: _____

Project: _____ Project Number: _____

Location / Site _____

URS Field Staff: _____

Photo Number	Direction of Photo	Location - Description

Page _____ of _____

W
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PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Puregro-Corcoran 6961 Nevada Ave, Corcoran, CA 93212	**URS Project No.** 27560811.53090100 **Date:** 3-17-10

Photo No.
1

Direction Photo Taken:

Looking southwest

Description:

View from the main entrance on the north side of the site.

Photo No.
2

Direction Photo Taken:

Looking south

Description:

View along the east side of the site adjacent to the closed Corcoran Landfill site visible in the left center of the frame.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Puregro-Corcoran 6961 Nevada Ave, Corcoran, CA 93212	**URS Project No.** 27560811.53090100 **Date:** 3-17-10

Photo No.
3

Direction Photo Taken:

Looking south

Description:

Concrete slabs and foundations are remnants of the former occupants that stored and sold agricultural chemicals. The steel building in the center of the frame is the only remaining structure.

Photo No.
4

Direction Photo Taken:

Looking south

Description:

Close-up of the steel building east end. Note drums labeled with “non-hazardous waste” labels.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Puregro-Corcoran 6961 Nevada Ave, Corcoran, CA 93212	**URS Project No.** 27560811.53090100 **Date:** 3-17-10

Photo No.
5

Direction Photo Taken:

Looking south

Description:

Steel building west end. Note the groundwater monitoring wells.

Photo No.
6

Direction Photo Taken:

Looking east

Description:

View of the north end of the site along Sweet Canal.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Puregro-Corcoran 6961 Nevada Ave, Corcoran, CA 93212	**URS Project No.** 27560811.53090100 **Date:** 3-17-10

Photo No.
7

Direction Photo Taken:

Looking east

Description:

View of the west end of the site from Highway 43.

HST PHASE I ENVIRONMENTAL SITE ASSESSMENT

Name of Site: Brown & Bryant-Shafter Facility & ~~Burlington~~ BNSF Property

Date of Inspection: 3/18/10

Site Inspector: T. Pender

EDR ID Number: S100833336, 1000437217, S103629745

Requires Follow-up Site Visit: Yes **No**

Requires Agency File Review: **Yes** No

URS Office: Fresno

Please take digital photographs during the reconnaissance. Please catalog the pictures - a sheet is attached for your use.

1. **Facility name** and address including zip code and county

~~135-140 Commercial Drive~~ Brown & Bryant-Shafter Facility & BNSF Property
135 + 140 Commercial Drive
Shafter, CA 93725

County: Kern

2. **Site layout**: Prepare or obtain a sketch of site if needed.

Site Acreage: 15

Site Buildings: Ø

Name	Number of stories	Dimensions	Square Footage	Year Built
Demolished - many remaining Concrete pads/foundations				

3. The **general topography** of the site area is:

slightly / **relatively** / very **flat** / rolling / hilly with Berms

with surface drainage appearing to flow to the N S E **W**

4. Are the following located on or **adjacent to the subject site**?

Surface water: No
Wetlands: No
Floodplains: No
Parklands: No
Sensitive habitats: No

5. Please list **current visible onsite activities**:

No Activity other than Remediation/GW Monitoring

Is equipment washed onsite? no
Is maintenance conducted onsite? If so, what types? no
Is fueling conducted onsite? no

6. **Site Area:**
General site area is (circle) residential commercial light industrial heavy industrial rural
other Site is abandoned, surrounded by light industrial properties

Identify adjacent roadways and properties. Indicate any current surrounding land uses that have the potential to impact the site.

North Commercial Drive, warehouses, mini-Storage Facility, Town of Shafter, Railway Spur to surrounding facilities

South Warehouses, Ag Chemical Mixing, Storage, Distribution Facility

East Warehouses, light Industrial Facilities

West BNSF Railroad, State Hwy 43, Residential & Commercial Development

7. Observations of potential environmental issues: (stressed vegetation, indications of liquid or solid waste dumping or disposal, discolored flowing or ponded waters, evidence of groundwater monitoring wells or remedial activities, abnormal odors, the presence of unnatural fill material or soil grading):
Remedial Activities, GW/Soil Gas Monitoring

8. **Utilities-list all visable utility services (power lines, meters etc)**
Electric Service by: PG&E
Gas Service by: Ø (Gas Company) — Inactive
Water Service by: City of Shafter —
Wastewater Service by: Ø
Steam by: Ø

9. **Onsite Aboveground and Underground Storage Tanks**; complete the table below. Be sure to include the tank locations on the site sketch!

Are there any ASTs/USTs, active or inactive, present at the site currently? yes, formerly? yes

UST (U) or AST (A)	Tank Size	Contents	Installation Date	Tank Material	Visible Staining	Registration	Active Removed Closed or
A/Ø	~50K gal	Water (empty)		Steel	Y / N	Y / N	
U/Ø	~500 gal	Purge Water		Poly	Y / Ø	Y / N	
U/Ø	~35 Tanks	Various Sizes & Contents Unknown		—	Y N	Y N	Removed

U / A _____ _____ _____ _____ Y / N Y / N _____

10. What is the condition of the tanks as indicated by visual inspection etc.? OK

11. Have there been any releases? Many Day to Day releases - Agricultural Chemicals (liquid Fertilizers, insecticides, herbicides, fumigants, defoliants) 1955-1989

To whom were the releases reported? DTSC & others (see RAP 9/28/08) EPA

What is status of release investigation? Ongoing - RAP in place

12. **ASBESTOS**

Is there known asbestos onsite? **Yes** **No** **Unknown**

Was an asbestos survey conducted and what were the results? _____

13. **HAZARDOUS CHEMICALS**

Does the site or facility currently store or use hazardous chemicals? **Yes** **No** **Unknown**

Indicate **primary** chemicals, raw materials and petroleum used, generated stored, released,

Chemical	Quantity	Location/Bldg. ID	Condition	Pathways

14. **SOLID WASTE GENERATION**

Does the site or facility currently generate solid wastes? **Yes** **No** **Unknown**

General Plant Trash consists of (Circle): Office Paper; Breakroom Waste; General Packaging; Restroom Wastepaper;

Other:_____

Accumulated in: compactor? Dumpster? located: N S E W of the building.

Hauled off by:_____

15. **HAZARDOUS WASTES**

Does the site or facility currently generate hazardous wastes? **Yes** **No** **Unknown**

Where are the wastes disposed? Purge Water from monitoring activities stored onsite, disposal location unknown

Were any wastes observed that might meet the definition of hazardous waste but have not been tested to be hazardous or are not handled as hazardous? NO if so, describe:

16. **PCBs**

Identify the presence of PCB contamination including the presence of potential PCB electrical or other equipment.

Equipment	Owner	Condition	PCB-content	Serial #	Pathways
None present					

17. **DRINKING WATER**

What is source of drinking water at the site? City or Onsite Well

What is source of process water for the site? n/a or

What is the source of drinking water for surrounding properties? City

Are there any wells known to exist at the site? Unknown Describe none visible

If wells are used for drinking water at the site, obtain water quality data

Describe any onsite surface water resources: none or Wastewater impoundments

18. **WASTEWATER**

Does the site or facility currently generate wastewater? **Yes** **No** **Unknown**

Describe the type and volume of wastewater that is generated (sanitary, non-contact, process, etc.) Groundwater purged during Monitoring, volume unknown, Stormwater

Is any wastewater treatment conducted (e.g. pH adjustment, equalization, grease trap, DAF, etc.? NO

if so, describe:

Where is wastewater discharged:			Does a Permit Exist?	
Surface water discharges	Yes	No	Yes	No
Land application discharges	Yes	No	Yes	No
Deep well injection	Yes	No	Yes	No
Discharge to municipal system	Yes	No	Yes	No
Impoundments	Yes	No	Yes	No
Septic systems	Yes	No	Yes	No

describe as appropriate 4 remaining stormwater Impoundments in SE Site Corner, 1 capped & Closed Basin near Center of Site

Any evidence of groundwater wells, cisterns, or septic tanks? if so describe:

19. **STORMWATER**

Describe how stormwater is managed: Stormwater Impoundments in SE Site Corner

Does the stormwater flow to a combined sewer? no

Does water run-off from neighboring facilities and have potential to impact this facility? unlikely, Cement Berm/Curb Surrounds site preventing flows on/off site

20. **WETLANDS**

Any known/delineated wetlands at the site? no, Indicate size, location (indicate on sketch), and description.

21. **AIR EMISSIONS**

Does the site or facility currently generate Air Emissions? **Yes** **No** **Unknown**

Describe each piece of fuel burning equipment at the facility (e.g. manufacturer, heat input capacity, HP, installation date, etc.)

22. **GROUNDWATER**

Is there known groundwater contamination at this facility? yes

If yes, list the contaminants:

See RAP (2008)

Are there groundwater monitoring wells at this facility? yes

Where are these wells located?

entire property

Are regulatory agencies involved with monitoring? yes

Status of investigation/remediation program? ongoing, Removal Action Planned

23. **SPILLS**

Has this site or facility had spills or leaks of hazardous wastes, PCBs, hazardous substances, or chemicals used at the facility? **Yes** **No** **Unknown**

Complete the following information for spills which have occurred:

Date	*Substance Spilled*	*Spill Location*	*Cleaned Up*	*Reported*
1955-1989	See RAP (2008)		**Yes** **No**	**Yes** **No**
			Yes **No**	**Yes** **No**

24. **USED OIL**

Does this facility generate used oil? NO

Describe the types and sources of used oil generated:

Are all containers of used oil labeled accordingly?

Describe how and where used oil is stored and handled:

25. **OTHER**

Are any pesticides or herbicides stored or used onsite? **Yes** **No** **Unknown**

Are lead acid batteries stored or used onsite? **Yes** **No** **Unknown**

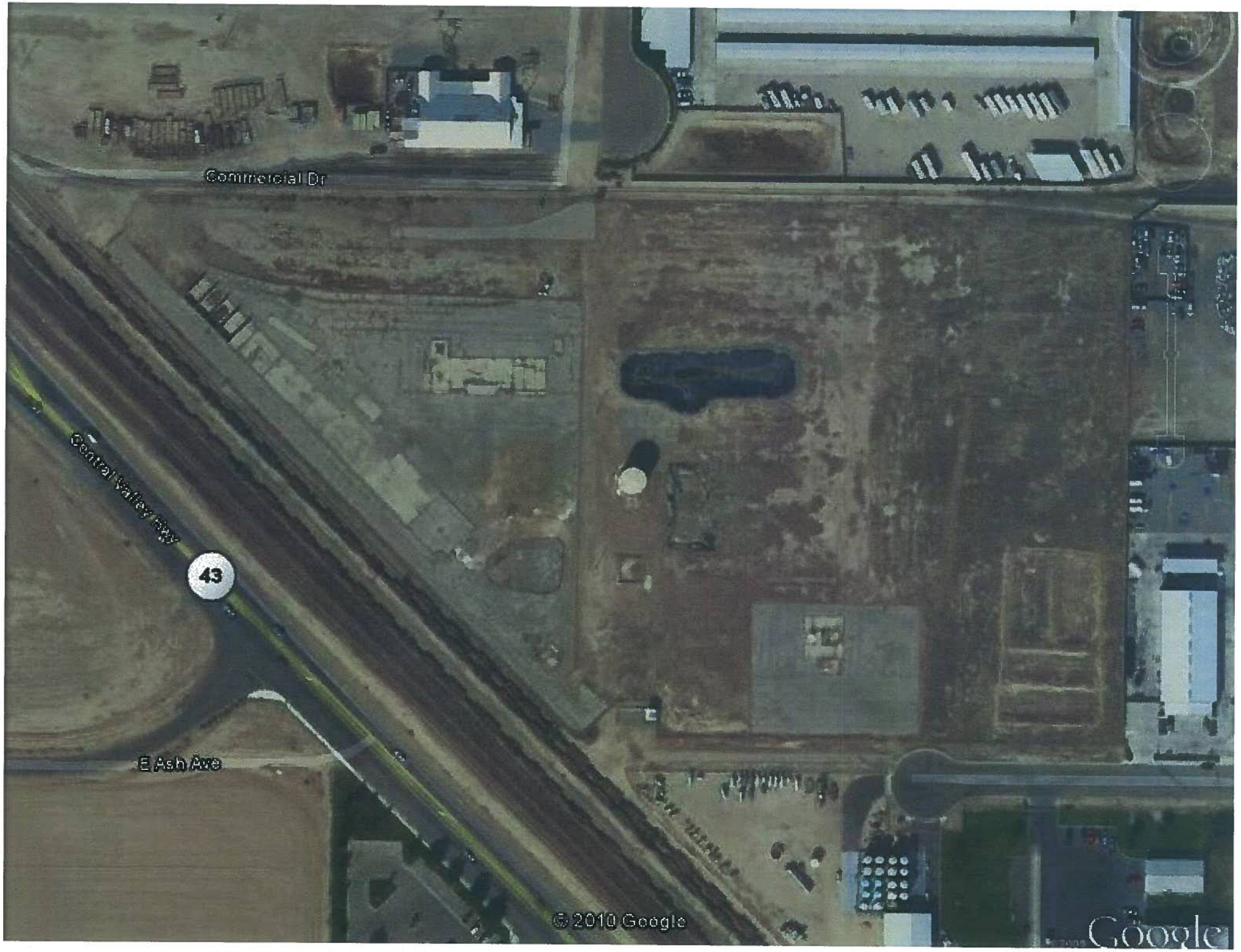
Is there ozone depleting substances (e.g., freons) containing equipment at the facility? **Yes** **No** **Unknown**

Is it maintained by onsite personnel? **Yes** **No** **Unknown**

Are fork lift trucks or any other hydraulic equipment maintained onsite? **Yes** **No** **Unknown**

Are there any hydraulic lifts onsite? **Yes** **No** **Unknown**

Facility is co-joined with BNSF Property, BNSF ordered to Assess & develop remediation plans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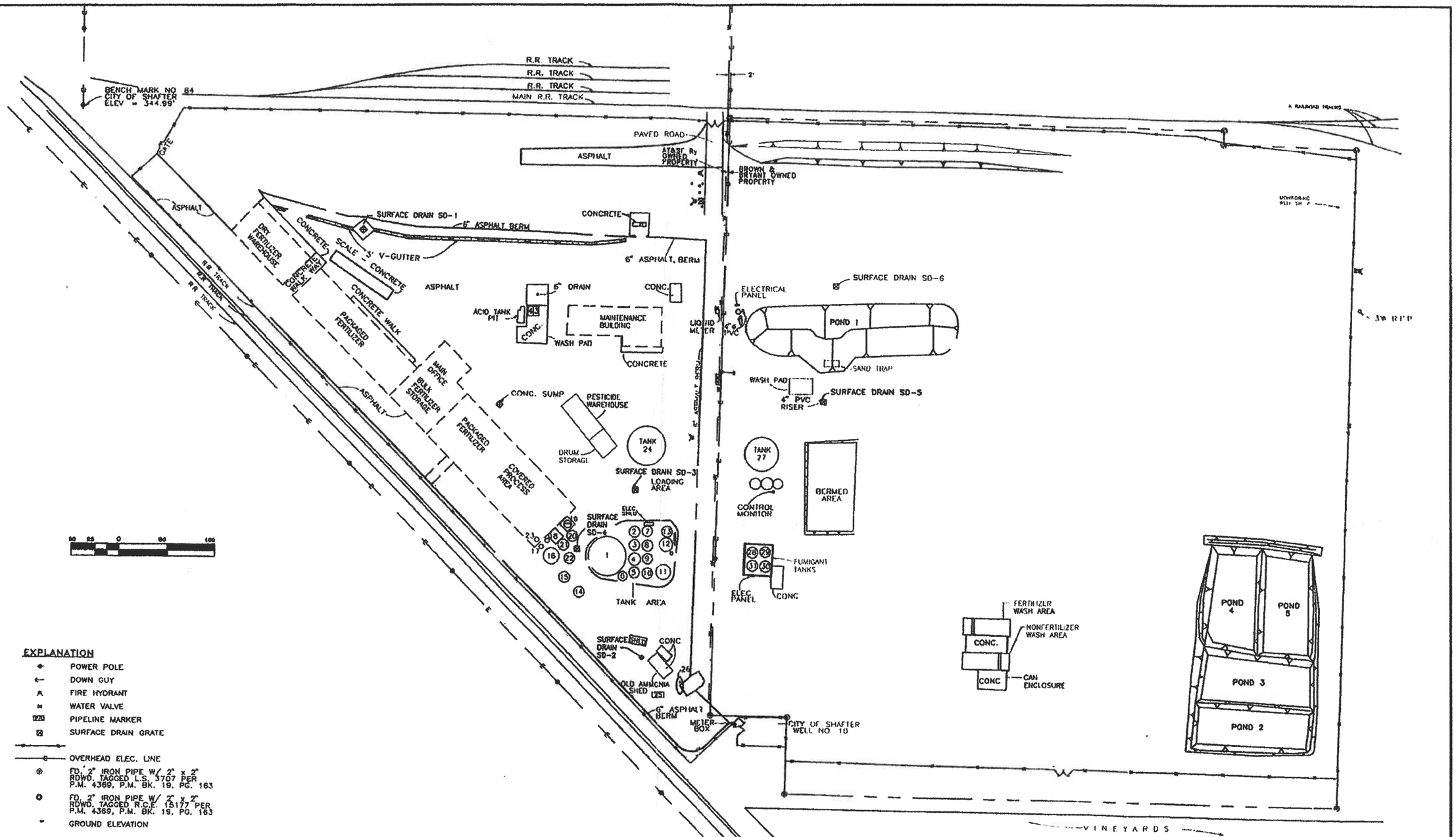

EXPLANATION

- POWER POLE
- DOWN GUY
- FIRE HYDRANT
- WATER VALVE
- PIPELINE MARKER
- SURFACE DRAIN GRATE
- OVERHEAD ELEC. LINE
- FD. 2" IRON PIPE W/ 2" x 2" RDWD. TAGGED L.S. 3707 PER P.M. 4369, P.M. BK. 19, PG. 163
- FD. 2" IRON PIPE W/ 2" x 2" RDWD. TAGGED R.C.E. 15177 PER P.M. 4369, P.M. BK. 19, PG. 163
- GROUND ELEVATION
- 12" ASBESTOS WATERLINE

MAP REPRODUCED FROM DRAFT KENNEDY/JENKS FIGURE 18 (JOB 912314.21); SAMPLE LOCATIONS TAKEN FROM CANONIE ENVIRONMENTAL, 1987 FIGURE 1 (DRAWING 80-037-F30).

BASIS OF BEARINGS:

THE GRID BEARING OF N. 1°20'28" E. SHOWN FOR THE EAST LINE OF SECTION 15, T.28S, R.25E.,M.D.M. ON K.C.S. FILED MAP NO. 7-1 BOOK 7, PAGE 74 IN THE OFFICE OF THE KERN COUNTY SURVEYOR WAS USED AS THE BASIS OF BEARINGS SHOWN HEREON.

BENCH MARK:

RAILROAD SPIKE IN POWER POLE AT NORTHWEST CORNER OF SITE AS SHOWN HEREON.
ELEVATION = 344.99' (CITY OF SHAFTER DATUM)

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BROWN & BRYANT
135 COMMERCIAL DRIVE
SHAFTER, CALIFORNIA

FIGURE 1-2
SITE FEATURE MAP

DESIGNED BY	JB	02/09/07	CHECKED BY	GS	02/09/07
DRAWN BY	DLB	02/09/07	APPROVED BY	MM	02/09/07
SCALE: 1" = 100'	DRAWING NO. 122497_FIG1-2.DWG		PLATE		REVISION NO. 0

SOURCE: CANONIE ENVIRONMENTAL, 1988 CLOSURE PLAN
AERIAL: GOOGLE EARTH PRO, 2007

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BROWN & BRYANT
135 COMMERCIAL DRIVE
SHAFTER, CALIFORNIA

FIGURE 1-3
SITE FEATURE MAP
WITH AERIAL OVERLAY

DESIGNED BY	JB	Date	CHECKED BY	GS	Date
DRAWN BY	Clay	26SEP07	APPROVED BY	MM	Date
SCALE: 1" = 100'	DRAWING NO. 122497_PD_FIG1-3.dgn		PLATE		REVISION NO. 0

STARTING DATE: 26SEP07	INITIATOR: J.BRIEGAL	TECH. REVIEW: Name	DWG. NO.: 122497_PD_FIG1-3.dgn
DRAWN BY: C.E.TUMLIN	CADD REVIEW: Name	PROJ. MGR.: Name	PROJ. NO.: 122497

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Shaw Environmental, Inc.

3347 Michelson Drive, Suite 200
Irvine, CA 92612-1692
949.261.6441
Fax 949.474.8309

Shaw® Shaw Environmental, Inc.

April 4, 2008

James L. Tjosvold, P.E.
Branch Chief
Northern California – Central Cleanup Operations Branch
Site Mitigation and Brownfields Reuse Program
Department of Toxic Substances Control
8800 Cal Center Drive, 3rd Floor
Sacramento, CA 95826-3200

Re: Draft Final Remedial Action Plan
Former Brown & Bryant Shafter Facility, Shafter, California
Docket No: I or SE 93/94-003
EPA ID No. CAD 009531823

Dear Mr. Tjosvold:

Shaw Environmental, Inc. is pleased to submit this Draft Final Remedial Action Plan (RAP) on behalf of the Brown and Bryant Shafter Task Force (Task Force) for the referenced site in Shafter, California. This document summarizes the remedial action decisions identified in the Feasibility Study (approved by DTSC on October 4, 2007) and the historical process leading up to these decisions. The Initial Study for this site in support of the required review under the California Environmental Quality Act for the RAP process was also submitted to DTSC on October 26, 2007, along with the Draft RAP.

DTSC comments on the Draft RAP dated December 17, 2007 and February 25, 2008 have been incorporated into this Draft Final RAP, thus, no additional comments are required from DTSC.

We look forward to finalizing this RAP after the completion of the public review and comment period. Please do not hesitate to call me at (949) 660-5314 if you have any questions or require additional information.

Sincerely,

Shaw Environmental, Inc., on behalf of the Brown & Bryant Shafter Task Force

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DRAFT FINAL REMEDIAL ACTION PLAN
Former Brown & Bryant Facility
Shafter, California

April 2008

Project No. 122497

Prepared for:

Brown & Bryant Shafter Task Force

Prepared by

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Executive Summary

This Remedial Action Plan (RAP) describes a proposed remedy to mitigate environmental hazards at the Brown and Bryant, Shafter Facility located at 135 Commercial Drive, Shafter, California. At various times between 1955 and 1989 the site was used in part for blending and repackaging of certain fertilizers and pesticides. A remedy is now proposed to protect human health and the environment by excavating from the site soil contaminated with pesticides, herbicides and arsenic and by removing volatile organic chemicals from the deeper parts of the soil column using soil vapor extraction. In addition, deed restrictions will be placed on the property which will govern future land uses. This RAP describes how the proposed remedy was chosen and invites public review and comment as required by Section 25356.1 of the California Health and Safety Code. More information about the remedy selection and the data on which it was based can be found in the Remedial Investigation (EMCON, 1995), Supplemental Remedial Investigation (EMCON, 1997), and the Feasibility Study (Shaw, 2007).

As of the winter of 2007, the Brown and Bryant, Shafter Facility is inactive and has been for several years. There are no buildings on the site; approximately 20 aboveground storage tanks remain on site. About 30 percent of the site surface area is paved and bermed. The BNSF Railway tracks border the property on the west and southwest (Figures 1-1 and 1-2). California State Highway 43 parallels the railroad tracks along their southwestern edge. Agricultural land and commercial properties border the property to the south and east and commercial properties and the town of Shafter lie north of the site.

California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control (DTSC) issued an Imminent or Substantial Endangerment Order and Remedial Action Order Number I or SE93/94-003 for the site on July 23, 1993 (Cal/EPA, 1993). This RAP was developed to comply with portions of this order as part of the overall restoration strategy for the site.

Background Information

Dry and liquid fertilizers were the products sold in the largest quantities from the site. Most of the fertilizers were stored and mixed in bulk in the aboveground storage tanks at the site. Other products included insecticides, herbicides, fumigants, fungicides and defoliants, most of which were stored and sold in pre-packaged containers. Commercial operations at the site ceased in 1989.

According to the Supplemental Risk Assessment (EHD, 2006a) the nearest residents are located approximately 0.2 miles from the site. There are 10 sensitive receptors within one mile of the site; one convalescent hospital, two child care facilities and seven schools (EHD, 2006a). The City of Shafter Well Number 10, constructed in 1976, is located immediately southwest of the site.

A variety of chemicals were known to be used on site (see Table 1-1). There are no documented spills or releases of dry or liquid chemical from the site. The existing soil contamination present at the site can therefore be attributed to the cumulative effect of minor spills which occurred during the course of day to day commercial operations at the site. Day to day operations also generated wastes, including storm water and wastewater generated from tank, drum and vehicle washing operations.

Prior to 1978, surface runoff was allowed to drain from the site following surface topography. Since 1978, stormwater has been directed to lined detentions (Pond 1 – constructed in 1978 and Ponds 2 through 5 – constructed in 1982). Wastewater was generated from a variety of locations including a concrete wash pad and sand trap south of Pond 1, the can enclosure pad, and a wash pad west of the maintenance shops used for washing trucks, tanks, other pieces of equipment and empty drums or containers. Since 1983, the fertilizer rinse water was recycled for use in the production of liquid fertilizer, and pesticide wash water was disposed of off-site in a Class 1 hazardous waste handling facility.

Contaminants in Environmental Media

More than 700 soil and soil gas samples have been collected from across the site. Groundwater monitoring has been ongoing since 1992 and therefore an extensive set of groundwater analytical data has been collected for the site. A series of investigations and risk assessments were completed for the site between 1984 and 2006 to identify and characterize the nature and extent of contamination and to assess potential hazards to human health and the environment. This process identified 64 compounds as Constituents of Concern (COCs), or chemicals at the site that could pose potential health risks to persons exposed to them. Less than half of these 64 chemicals are “risk drivers”, or compounds which due to their concentration on site, or their toxicity, constitute a greater percentage of the total calculated risk than the other remaining compounds. A complete list of the COCs is presented in Section 4.0 of this RAP. This list includes:

- Volatile organic compounds (VOCs) such as 1,2-dibromo-3-chloropropane, 1,2-dichloropropane, 1,2,3-trichloropropane, and ethylene dibromide are present in soil, soil gas and groundwater samples beneath the site. The RI Report (EMCON, 1995) concluded that the groundwater underlying the Shafter area is regionally contaminated with agricultural chemicals and the contribution to groundwater contamination by the site is negligible.

- Organochlorine and organophosphorus pesticides are also common constituents found in site soils. Nineteen individual pesticide compounds were detected in the samples and include relatively frequent detections of toxaphene , 4,4-DDE,, and 4,4-DDT.

- Herbicides were detected in site soil and in historic site groundwater samples (only the pre-1997 samples). Herbicide compounds detected frequently in site soil samples include dinoseb, 2,4-DB, dicamba and silvex (2,4,5-T).

- Metals such as arsenic and zinc were used on site in the processing of agricultural products. The identification of metals contamination was based on a comparison of on-site metals concentrations to background concentrations for the Shafter / Kern County area. This process identified arsenic as a site-related contaminant.

Summary of Site Risks

Since completion of the early site investigations, extensive risk assessment activities have been performed. Following the initial risk assessments, the Supplemental Risk Assessment (SRA) (EHD, 2006a) was developed and submitted to DTSC and Human and Ecological Risk Division of Cal EPA (HERD) as the consensus human health risk assessment for the site. Risk –based Cleanup Goals (RBCG) were also developed by EHD, 2006b and subsequently revised by HERD (California Department of Toxic Substances Control, 2006). The SRA evaluated exposures to human receptors based on the assumption that future development of the Site will be limited to commercial/industrial land use and that after development, the Site will continue to have controls typical of commercial or industrial facilities. SRA results indicate unacceptable risk exists to either the construction worker or on-site commercial / industrial worker. Air dispersion calculations indicate that the carcinogenic risks and non-carcinogenic risks to off-site residents are likely to be below regulatory risk management levels.

An ecological screening assessment (ESA) (EHD, 2007) was submitted as a companion document to the human health risk assessment. The ecological screening assessment concluded that due to the lack of suitable on-site habitat, limited accessibility to the site and partial capping of the site, the current site conditions present relatively low ecological risk. The ESA likened these current conditions to the background risks associated with the risk to ongoing agricultural and industrial activities in the surrounding area. When these current site conditions are further enhanced by the extensive remedial actions selected in the FS, ecological risk will be even further diminished.

Selection of Remedial Alternative

The proposed remedy was selected based on the remedial strategy described in the FS (Shaw, 2007) taking into account the interim actions completed for the site. Four key elements were considered during remedy evaluation and selection for the site. These are:

- the remedial action objectives (RAOs), which are the goals of any remedy considered
- the Applicable or Relevant and Appropriate Requirements (ARARs)
- the preliminary screening of technologies that could be used to remediate the site, and
- definition of the remedial action alternatives and their component activities

Each of these four elements were addressed during the FS process, as described below.

Remedial Action Objectives (RAOs)

RAOs are specific goals for protecting human health and the environment. They describe the performance criteria for remedial actions needed to protect human health and the environment. For the Brown and Bryant site, RAOs were developed and designed to mitigate risks to future on-site commercial workers, to close Pond 1, and to prevent future contamination of the groundwater beneath the site.

A remedial strategy was developed and implemented throughout the FS taking into account the future proposed commercial or industrial land use and the RAOs. A component of the remedial strategy was the identification of COCs that contribute most significantly to site risks (e.g., identify the risk drivers). Soil locations were then identified for remediation based on reducing concentrations of the chemicals identified as risk-drivers to levels that are protective of human health. A key component of the remedial strategy is the completion of a post-remediation risk evaluation. The post-remediation risk evaluation will use the existing historic data (where applicable) and the post-remediation confirmation data to ensure the health-based objectives identified in the FS and in this RAP are met by the remedial actions.

Thirty-three areas of the site, containing an estimated 3,700 cubic yards of soil were designated as requiring remediation for surface and near surface soils following this methodology. An additional 550 cubic yards of soil within the western portion of Pond 1 are also proposed for remediation. Two areas of the site (the aboveground storage tank and Pond 1 area) are underlain by deeper soils contaminated by VOCs such as EDB, DBCP, 1,2-DCP and / or 1,2,3-TCP.

Applicable or Relevant and Appropriate Requirements (ARARS)

Proposed remediation activities must also comply with ARARs, which are the Federal and State environmental laws and regulations, known as “applicable or relevant and appropriate requirements” that govern remedial actions at the Brown and Bryant, Shafter site. Briefly stated, an *applicable requirement* is an enforceable standard that directly pertains to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a site. A *relevant and appropriate requirement* is one that is not applicable but addresses problems or situations very similar to those at a site. ARARs include:

- **Chemical Specific ARARS** include federal and state requirements that define what constitutes hazardous waste, the clean up levels developed by EHD and HERD (November 2006), and State and Federal MCLs for groundwater.

- **Location specific ARARs** include the Federal Clean Air Act regulations which authorized the California State Implementation Plan and are administered by the San Joaquin Air Pollution Control District.

- **Action Specific ARARs** include provisions of the Federal RCRA regulations (administered by the State of California) regarding classification and disposal of hazardous waste. In addition, SWRCB Res. 68-16 (Policy With Respect to Maintaining High Quality of Waters in California) was selected as a relevant and appropriate requirement because it relates to protection of water quality.

Preliminary Screening of Technologies

A preliminary screening of technologies was made to consider the many potential remedies available, discard those that were clearly less suitable, and formulate combinations of remedies to be evaluated in detail. Some technologies were not effective as stand-alone remedies but were effective if combined with other technologies. All technologies were screened for cost, effectiveness, and implementability. Five RAAs were developed via the technology screening as candidate alternative:

- RAA 1: No Action
- RAA 2: Institutional Controls, Groundwater Monitoring, and Reporting
- RAA 3: Soil Vapor Extraction, Excavation and Offsite Disposal
- RAA 4 Contaminated Soil Removal and Closure of Pond 1
- RAA 5 Pond 1 Closure in Place

The selected alternative for remediating the site must satisfy each RAO and ARAR. In addition, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), at 40 Code of Federal Regulations (CFR) Part 300, lists nine evaluation criteria for making a detailed analysis of alternatives and selecting the proposed alternative. These nine criteria are:

- **Threshold Criteria -** Overall protection of human health and the environment, and Compliance with ARARs

- **Balancing Criteria -** Long-term effectiveness and permanence, Reduction of toxicity, mobility, or volume through treatment, Short-term effectiveness, Implementability, and Cost, and

- **Regulatory/Community Criteria -** State acceptance, and Community acceptance.

Selection of Remedial Action Alternatives

The proposed remedy includes components of RAA 2 (deed restrictions and notices and groundwater monitoring), RAA 3 (soil vapor extraction, soil excavation and offsite disposal, and RAA 4 (contaminated soil removal and closure of Pond 1).

Deed restrictions rely on private property law to restrict or affect the use of the property, and would be implemented to prohibit the development and use of the property for residential housing, traditional public or private school for persons less than twenty one years of age, childcare facilities, long-term care hospital and playgrounds. Additionally, restrictions would be put in place to prevent future use of onsite groundwater from the upper aquifer as a drinking water source and to maintain cover over the site until the deep soils are remediated. Land Use Covenants (LUCs) notices are informational devices that are enforceable. They will be used to discourage inappropriate land use and to inform that residual contamination above residential cleanup goals is present at the site that prevents unrestricted use such as residential development, daycare facilities, schools, and playgrounds. The current approved groundwater monitoring and reporting program for the former Brown and Bryant facility will continue through remedial action. Additionally, a sentinel groundwater monitoring well upgradient of City Well #10 will also be installed and monitored. This well will be used as early detection well to monitor potential groundwater impacts to the city well.

The primary components of RAA 3 are excavation and offsite disposal of shallow soils affected by pesticide and metals and in-situ soil vapor extraction of deep soil affected by volatile organic compounds. The shallow soils will be excavated and disposed of offsite either at a Class I landfill or a Subtitle D landfill. Approximately 5,100 tons of pesticide and metal affected shallow soil will be excavated from several different locations throughout the site. Soil piles will be sampled and profiled and disposed of in either a Subtitle D Landfill (non-hazardous material) or in a Class I Landfill (hazardous material). Prior to backfilling each individual excavation, confirmation samples will be collected and analyzed. Once confirmed as meeting the cleanup criteria, excavated areas will be backfilled with compacted clean soil and covered with gravel sub base and asphalt. Since the underlying risks will have been mitigated by the excavation effort, future land use will dictate the maintenance requirements for the asphalt cover in this area.

In addition, soil excavation and disposal will be a key component of the closure of Pond 1 (RAA 4). After removing the affected soil, the pond would be backfilled with clean compacted soil, and covered with an alternate design of a Title 27 prescriptive cover. Post closure would include groundwater monitoring. The cover would include three layers: 1).the remaining liner at the bottom of the pond installed in 2005, 2). compacted backfill over the liner to one foot above grade to serve as a foundation layer for the cover, and 3). cover consisting of a gravel sub base and asphalt-concrete pavement slightly domed to promote drainage. This cover will require

periodic inspection for up to 30 years to insure that no cracking or other damage has compromised the protective capability of this unit.

The deep soil affected with VOCs will be remediated using SVE. This technology involves collection of soil vapor from the unsaturated zone by applying a vacuum at a series of extraction points. Two impacted areas of contamination, shown on Figure 5-2, will each have their own SVE system. The major components of each SVE system will include existing and new vapor extraction wells, necessary piping and valves, and a blower. The discharged air from each system would be sent through two activated carbon units plumbed in series. The spent carbon would be regenerated for reuse. If carbon adsorption technology proves to be cost-prohibitive, other emission control technologies may be applied. In any case, emissions controls will meet San Joaquin Air Pollution Control District requirements for SVE treatment of VOC-contaminated soil. Closure confirmation sampling would include confirmation of soil at depth, soil gas sampling or demonstration of an asymptotic decline. The results would be incorporated into a post remediation evaluation to insure that health-based objectives are met

Public Involvement

Consistent with the Public Participation requirements for the RAP process, the public process includes:

- development of a mailing list, including at a minimum all commercial, industrial and residential occupants within at least a 1/4 mile radius
- preparation of a fact sheet
- public notice
- a 30-day comment period

The public has access to the project documents for the Brown and Bryant, Shafter Facility. Copies of the Draft Final Remedial Action Plan, California Environmental Quality Act (CEQA) determination, and other documents related to the site are available for review at the following locations:

Shafter Public Library
236 James Street
Shafter, CA 93263
Phone:(661) 746-2156

California Department of Toxic Substances Control
1515 Tollhouse Road
Clovis, California 93611
Hours: 8 a.m. to 4 p.m. Please contact the file coordinators at

(559) 297-3901 to make an appointment.

The public may also comment on the project and the project documents. The 30-day public comment period begins**_____, 2007** and ends on **_____, 2007**, during which time the public can provide comments and questions about the draft Remedial Action Plan and proposed Negative Declaration. All comments must be postmarked or emailed by **_____, 2007,** and sent to:

Calden R. Koehn , Project Manager
California Department of Toxic Substances Control
1515 Tollhouse Road
Clovis, California 93611-052
email - ckoehn@dtsc.ca.gov

The comment period will include a public hearing on the RAP and the California Environmental Quality Act (CEQA) determination. Comments will be compiled, read, analyzed, and responded to by DTSC project staff, after which they and the responses will become part of the public record.

Administrative Record List

An Administrative Record has been compiled for the Brown and Bryant Shafter Facility. The Administrative Record is the complete set of documents considered or relied upon to select a response action. It includes:

- an index (the Administrative Record List)
- general and site-specific guidance documents
- final reports such as the RI/FS and this RAP
- technical and site-specific information
- information or comments from interested parties and the public
- responses of DTSC as the lead agency to public comments

The Administrative Record for the Brown and Bryant Shafter Facility decision may be examined during normal business hours at:

California Department of Toxic Substances Control
1515 Tollhouse Road Clovis, CA 93611-0522
Tel. (559) 297-3901

Appendix A contains a list of the materials contained in the Administrative Record.

1.0 Site Background

The Brown and Bryant, Shafter Facility comprises approximately 15 acres of land located at 135 Commercial Drive, Shafter, California (Figure 1-1). At various times between 1955 and 1989 the site was used in part for blending and repackaging of certain fertilizers, herbicides, and pesticides.

As of winter of 2007, the site is still inactive. Figures 1-2 and 1-3 present details of the site as it currently exists (winter 2007). There are no buildings on the site; approximately 20 aboveground storage tanks remain on site. The entire site is bermed and about 30 percent of the surface area is paved. The BNSF Railway tracks border the property on the west and southwest. California State Highway 43 parallels the railroad tracks along their southwestern edge. Agricultural land and commercial properties border the property to the south and east and commercial properties and the town of Shafter lie north of the site. According to the Supplemental Risk Assessment (EHD, 2006a) the nearest residents are located approximately 0.2 miles from the site. There are 10 sensitive receptors within one mile of the site; one convalescent hospital, two child care facilities and seven schools (EHD, 2006a). The City of Shafter Well Number 10, constructed in 1976, is located immediately southwest of the site.

The 15 acre site consists of two parcels. In December 1952, Brown and Bryant leased five acres of the site from the Atchison, Topeka, and Santa Fe Railway Company. Operations expanded onto the adjoining 10 acres of the site, located to the east of the five leased acres, when they were purchased by Brown and Bryant in 1977. After leasing the Site, Brown and Bryant installed aboveground tanks, underground pipelines, a shed, and a scale. In 1957 and 1958, the maintenance shops, main warehouse, and process area were constructed. Dry and liquid fertilizers were the products sold in the largest quantities from the site. Most of the fertilizers were stored and mixed in bulk at the site. Other products included insecticides, herbicides, fumigants, fungicides, and defoliants, most of which were stored and sold in pre-packaged containers. Commercial operations expanded into the 5 acre lot immediately adjacent to the roadway that comprised the former eastern boundary. The remaining 5 acres were leased to Pierce Trucking Company and were used for truck parking and truck repair from 1975 to 1982. The pesticide warehouse was built in 1978. Commercial operations at the site ceased in 1989.

California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control (DTSC) issued an Imminent or Substantial Endangerment Order and Remedial Action Order Number I or SE93/94-003 for the site on July 23, 1993 (Cal/EPA, 1993). This RAP was developed to comply with portions of this order as part of the overall restoration strategy for the site.

1.1 Known Chemical Use and Documented Releases

As presented in Table 1-1 (modified from Canonie, 1988) a variety of chemicals were known to be used on site. Several of these chemicals were stored in bulk in aboveground storage tanks on the property. In addition, a 2,000 gallon gasoline underground storage tank was present at the site.

There are no documented spills or releases of dry or liquid chemical from the site. The existing soil contamination present at the site can therefore be attributed to the cumulative effect of minor spills which occurred during the course of day to day commercial operations at the site. Day to day operations also generated wastes, including storm water and wastewater generated from tank, drum and vehicle washing operations. Historical waste management practices are summarized by waste type as follows:

- **Stormwater –** Prior to 1978, surface runoff from the area south of the maintenance shops and southeast of the process area generally drained toward the northwestern portion of the facility near the scale and shed. Surface runoff at the facility was contained by the higher ground occupied by the road and railroad tracks which bounded the east and southwest sides of the facility, respectively. Major drainage improvements were completed at the site circa 1978 after installation of the City of Shafter Well 10 and during the construction of Pond 1. The land surface on the main facility and on the adjacent 5-acre lot was re-graded to direct surface water drainage away from Well 10 and towards Pond 1. A berm (used for surface water detention and diversion) was also created along the northern property boundary and in the area east of Pond 1 and a series of surface drains installed to enhance stormwater management on the facility. In 1982, Pond Nos. 2 through 5 were built in the southeast portion of the 5-acre lot that had been previously leased to Pierce Trucking Company. Pond Nos. 2 and 3 were single-lined, and Pond Nos. 4 and 5 were double-lined and collected storm water from Pond 1 (overflow) and from other portions of the site.

Wastewater and Empty Product Container Management - Various portions of the site were used for washing trucks, tanks, other pieces of equipment and empty drums or containers. These areas are:

- A concrete wash pad and sand trap were built adjacent to the south side of Pond 1. Rinse water would drain from the pad into the sand trap and then into the pond which was unlined at the time. Trucks and other equipment were washed on this pad. In 1979 rinsing of tanks containing pesticides, herbicides and fertilizers began at the wash pad adjacent to Pond No.1. In 1980 the pond was double-lined and a leak detector system installed. In 1982, a concrete tank was installed adjacent to Pond No. 1 to receive surface runoff and direct this runoff, as necessary, to Pond Nos. 2 through 5 via a transfer line and pump system.
- Around the same time that Pond 1 was constructed, a can enclosure pad was built in the south central portion of the site. The can enclosure was used to store empty drums

and containers of pesticides prior to disposal of these items. The drums and containers awaiting disposal rested on a concrete pad with 6-inch high raised concrete sides. In 1983 the contained rinse systems were built adjacent to the can enclosure area.

- A wash pad is also present located west of the maintenance shops in the west-central portion of the site. According to EMCON, 1995, this wash pad was used for washing tanks (prior to 1979) and for washing trucks and equipment from 1979 to 1987. Use of this wash pad was discontinued in 1987.
- In 1982, Pond Nos. 2 through 5 were built in the southeast portion of the 5-acre lot that had been previously leased to Pierce Trucking Company. Pond Nos. 2 and 3 were single-lined, and Pond Nos. 4 and 5 were double-lined.

From 1983 to the end of commercial operations at the site, rinse water from fertilizer and pesticide tank washing operations was containerized by the contained rinse systems. The pesticide rinse water was held in a 1,000 gallon tank until it could be disposed of in a Class 1 hazardous waste facility. The fertilizer rinse water was recycled for use in the production of liquid fertilizer.

1.1.1 Contamination Overview

The following subsections describe classes of chemicals found in soil, soil gas, sediment, and groundwater samples obtained from the site and the COPCs derived from these analyses. This evaluation was based on the investigations described in Section 3. More than 700 soil samples have been collected from across the site. In addition, because groundwater monitoring has been ongoing since 1992, an extensive set of groundwater analytical data has been collected for the site. Figure 1-4 presents an overview of where chemicals detected in surface and deep soils are present at the site. Table 1-2 presents a summary of the contaminants detected within soil, soil gas, and groundwater at the site.

Volatile Organic Chemicals – Volatile organic compounds were used at the facility and are common constituents detected in site soils and groundwater samples. 24 individual VOCs were reported in site soils and seven VOCs were detected in site groundwater samples (Table 1-2). VOC releases have been identified within subsurface soil samples beneath the Pond 1 area and northwest of the aboveground storage tanks located in the southwestern portion of the site.

Subsurface vadose zone soil contamination composed primarily of 1,2-dibromo-3-chloropropane (maximum concentration of 6 mg/kg), 1,2-dichloropropane (maximum concentration of 31 mg/kg), 1,2,3-trichloropropane (maximum concentration of 2.281 mg/kg) and ethylene dibromide (maximum concentration of 36 mg/kg) exists within these areas. Soil contamination extends from near surface (0 to 5 feet below the ground surface) to approximately 130 feet below the ground surface. The remaining VOCs were detected sporadically and at relatively low concentrations across the site.

Organochlorine and Organophosphorus Pesticides – Nineteen individual pesticide compounds were detected in the soil samples obtained from the site. As presented on Table 1-2, toxaphene (76 detections), 4,4-DDE (74 detections) and 4,4-DDT (74 detections) were detected frequently in the soil samples. The maximum detection of a pesticide compound (toxaphene) was recorded in a concentration of 1,500 mg/kg at location 11T. Pesticides are widely distributed across the site. Detections of pesticide compounds exceeding EPA Region 9 residential soil PRGs tend to cluster in the upper portion of the soil column (less than 10 feet below grade) and in the portion of the site (western half) used for blending, packaging and sales, around the former can enclosure area and in the Ponds 2 through 5 area. Pesticide compounds have not been detected in groundwater samples obtained from the site monitoring wells.

Herbicides – Dinoseb, 2,4-DB, dicamba, and silvex (2,4,5-T) were detected in site soil and groundwater samples. Like the pesticide compounds, herbicides were mainly reported from soil samples collected from the western portion of the site. Because the herbicides compounds are more soluble than pesticides, the herbicides tend to be detected in deeper portions of the soil column. Dinoseb, for example, was detected in 56 of 306 soil samples at a maximum concentration of 0.290 mg/kg.

Since 1997 dinoseb has not been detected in site groundwater samples. Prior to 1997 dinoseb was quantified in site groundwater samples at or near the quantitation limit of 0.15 μg/L.

Metals – Although some metals such as arsenic and zinc were used on site in the processing of agricultural products (see Table 1-2) metals are naturally-occurring components of all soils. Therefore, the identification of metals contamination was based on a comparison of on-site metals concentrations to background concentrations for the Shafter / Kern County area. This comparison identified arsenic as a site-related contaminant. Arsenic was detected in 263 of 522 soil samples in a maximum concentration of 110 mg/kg. Arsenic contamination was associated with the main plant area, coincident with surface and subsurface pesticides and subsurface VOC detections. Arsenic contamination was also identified in the eastern portion of the site and from the can enclosure, Pond 1 and Ponds 2 through 5 area. All 2006 groundwater analytical results for arsenic were quantified in concentrations below the MCL of 0.050 mg/L.

Ammonia - Ammonia was detected in ten samples (designated with "AS" prefixes on Figure 1-4) at concentrations ranging from 39.4 to 1,650 milligrams per kilogram (mg/kg).

Soil Gas – In general, soil gas detections of significance are collocated with subsurface soil VOC detections. Chemical analysis for VOCs was completed on 49 initial soil gas samples obtained from borings E-23, -24, -26, and -27and from 23 additional samples (from 14 locations containing a "SV" prefix). The most commonly detected VOCs in soil gas were 1,2-DCP (maximum concentration = 4,600 μg/L), 1,3-DCP (maximum concentration = 50 μg/L), EDB

(maximum concentration = 570 ug/L), and 1,2,3-TCP (maximum concentration = 56 ug/L), xylene was detected in the highest concentration (6,800 ug/L). Xylene detections were collocated with ethylbenzene and toluene detections and were found in relatively high concentrations in samples obtained from borings E-26 and E-27 which are located by surface drain SD-4.

Constituents of Concern

Human health and ecological risk assessments have been developed by IT (2001), Environmental Health Decisions [(EHD), 2006a and b] and EHD, 2007 with input from the California Department of Toxic Substances Control (2006). There are many constituents of concern existing at the site (see Table 1-3 of the Supplemental Risk Assessment (EHD, 2006a). This table contains 64 individual compounds which were fully evaluated during the risk assessment. Less than half of these 64 chemicals are "risk drivers", or compounds which due to their concentration on site, or their toxicity constitute a greater percentage of the total calculated risk than the other remaining compounds. Constituents of concern are listed and described in Section 4.0 of this RAP.

1.2 DTSC Involvement at the Brown and Bryant, Shafter Site

The California Department of Toxic Substances Control (DTSC) has provided oversight of this site since the initial Part A application in 1983. Since that time, DTSC has also conducted or sponsored various site investigations. In May 1990, The DTSC and its contractors (Beylik Drilling and Metcalf & Eddy, Inc.) installed deep soil boring (B-1 through B-5) using only State Bond funds. Additionally, the installation of groundwater monitoring wells conducted from February to June 1991 (Beylik Drilling and Ecology and Environment, Inc.) was financed with State Bond monies.

2.0 Remedial Investigation

A series of investigations was completed between 1984 and 1999 to characterize the nature and extent of contamination at the site. These investigation activities are summarized below.

2.1 Soil Investigation, 1984

In 1984, Hargis and Montgomery (Hargis, 1987) performed a soil investigation for chlorinated pesticides, metals, xylenes, and ethylene dibromide. The investigation included an exploratory borehole, four monitoring wells and 28 soil borings that were drilled on-site.

2.2 Remedial Investigation – Interim Report – 1988

A remedial investigation was performed at the Site in 1987 by Hargis & Associates. This investigation and the results are summarized in Hargis's Remedial Investigation of Soil and Groundwater Interim Report (Hargis, 1988). Three groundwater monitoring wells (SR-1 through SR-3), nine borings in the vicinity of the ponds, and two background borings were drilled for the collection of soil and groundwater samples. A total of 37 soil samples were collected from the 9 soil borings. In general, the concentrations of inorganic constituents in soil collected from Pond 1 were higher than the background concentrations and the concentrations detected in soil samples collected from the other four ponds. Organic compounds were detected only in soil samples collected from the soil borings in Ponds 1 and 2. Low concentrations of organic compounds were detected sporadically in groundwater samples collected from wells SR-1 through SR-3 from January to March 1988.

2.3 Soil Investigation, 1988

In 1988, Canonie conducted a shallow soil investigation in the vicinity of the ponds and across the operations area (Canonie, 1988a). In total, 244 soil samples were collected at depths ranging from 0.5 to 10 feet below ground surface from 148 borings. Organic constituents, including carbamates, chlorinated herbicides, organochlorine pesticides, organophosphorus pesticides, and VOCs, were detected mainly in soil samples collected in shallow soil, in areas of concentrated industrial activity, and from Ponds No. 4 and 5. Metals, notably arsenic, copper, manganese, and zinc, were detected at various concentrations throughout the Site.

2.4 Site Assessment and Listing Site Inspection Reports – 1991

Results of the May 1990 and February 1991 through June 1991 field events (sampling of deep borings B-1 through B-5 and the installation of four groundwater monitoring wells) were included in the reports compiled by EPA's Field Investigation Team (FIT) contractor [Ecology and Environment (E&E), 1991a and b).

2.5 Interim Measures Sampling, 1991

In 1991, E&E conducted soil sampling as part of the interim corrective measures study. The results of this investigation were presented in E&E's Site Assessment Report (E&E, 1991a). Shallow soil sampling [from ground surface to a depth of 1.5 feet below ground surface (bgs)] was conducted at 12 locations near surface drains SD-2 and SD-4, the former diesel tank and liquid fertilizer storage tanks, the former fumigant tank area, and Pond Nos. 2 through 5. Low VOC concentrations were detected in four of the soil samples (PA2, PA3, PA9, and PA12). Low concentrations of the herbicide dinoseb were detected in all but two of the soil samples, and low concentrations of the herbicides dicamba and pentachlorophenol were detected in one sample (PA12). The organochlorine pesticides toxaphene, DDD, DDE, and DDT (one or more compounds) were present in 7 of the 12 soil samples at concentrations that exceeded their respective cleanup level. The highest soil concentrations were detected in samples that were collected near surface drains SD-2 and SD-4.

2.6 Remedial Investigation, 1995

In 1995, EMCON Associates (EMCON) conducted a remedial investigation of the Site (EMCON, 1995). Twenty-one borings were drilled and one groundwater monitoring well (SR-8) was installed during this investigation. In total, 203 soil samples were collected and analyzed for VOCs, organochlorine pesticides, herbicides, carbamates, and nitrates. Based on soil analytical results, elevated concentrations of organochlorine pesticides (particularly DDT, DDE, and toxaphene) were present mainly in the uppermost 2 feet of the soil profile, as was the herbicide dinoseb. Elevated concentrations of organochlorine pesticides were detected in the former process area, near borings B-2 through B-4, and elevated concentrations of VOCs were present south of Pond No. 1 and near surface drain SD-4. Nitrate-impacted soil was detected in the vicinity of the former fertilizer tanks, Pond No. 1, and the sand trap/wash pad area.

2.7 Supplemental Site Investigation

In 1997, EMCON conducted a supplemental site investigation at the Site (EMCON, 1997a). This investigation included drilling 11 exploratory borings (7 on Site and 4 off Site) to depths ranging from 30 to 165.5 feet bgs, installing 5 quadruple-nested soil vapor extraction wells to depths ranging from 100 to 128 feet bgs, and conducting a soil vapor survey on 4 of the soil borings. All but 3 of the soil vapor samples contained detectable concentrations of VOCs. The highest soil vapor VOC concentrations were detected south of Pond No. 1. Six of the seven on-Site soil borings (borings E-23 through E-28) contained soil VOC concentrations that exceeded the PRGs for one or more compounds. VOC-impacted soil was present in the vicinity of Pond No. 1 and surface drains SD-1 and SD-4.

In 1997, EMCON conducted additional sampling at the request of the DTSC (EMCON, 1997b). Additional soil sampling was conducted to identify the presence or absence of specific chemicals, namely ammonia, Atrazine, Atratol, Captafol, Diazinon, Diquat, Fluometuron, Metalaxyl, Metolachlor, Paraquat, Prometryn, and Simazine. In total, ten soil samples were collected from five soil borings (AS-1 through AS-5) during this investigation. Ammonia was detected in all ten samples at concentrations ranging from 39.4 to 1,650 milligrams per kilogram (mg/kg). Prometryn was detected in soil samples from boring AS-5 (at the non-fertilizer washout area near SG-3), at concentrations ranging from 150 μg/kg at 2.5 feet bgs to 630 μg/kg at 0.5 feet bgs. None of the other analyzed compounds were present at detectable concentrations.

2.8 Soil Vapor Sampling, 1999

In 1999, HydroGeoSpectrum conducted soil-gas sampling to characterize chemical distributions along the centerline of the Site (HydroGeoSpectrum, 1999). In total, 24 soil vapor samples were collected from depths of 10 to 27 feet bgs. Detectable concentrations of 1,2-DCP and/or 1,2,3-TCP were present at nearly every location. Additionally, slightly higher vapor concentrations were detected in shallower soil on the west side of the Site, suggesting that there could be a potential source area to the west of the Site.

2.9 Groundwater Monitoring, 1987 – 2006

Groundwater monitoring at the site began in 1987. Groundwater sampling and reporting has been ongoing at the site since 1991. In May 1992 a groundwater monitoring plan was submitted and approved by DTSC (Kennedy/Jenks Consultants, 1992). The most recent annual groundwater monitoring report for the site was submitted in February 2007 (Shaw, 2007a). This report presents the 2006 analytical results as well as tabulated summaries and graphs of 34 historical groundwater sampling events completed over the previous 16 years.

As a result of these investigations, each portion of the site has been characterized. More than 700 soil samples have been collected and analyzed for organochloropesticides (OCPs), herbicides, organophosphates, carbonates, VOCs, nitrates, and/or metals. Soil sampling locations are presented, but not identified on Figure 1-4. A complete description of sampling locations and the occurrence of contamination in the soils is presented in the FS (Shaw, 2007) and the RI documents (EMCON, 1995, and 1997a).

3.0 Interim Remedial Actions

3.1 Phase I Investigation – Canonie 1988b

In August 1987, soil and ancillary equipment was removed from Pond Nos. 1 through 5. The contents of Pond No. 1, the liners, 2 to 3 feet of soil under the liners, the collection pit, the wash pad, the sand traps, and soil beneath the wash pad were excavated and transported to a Class I waste disposal facility. Approximately 1,700 cubic yards of material were removed from the Site. Following the excavation activities, a temporary liner was installed in the bottom of the pond, a berm was constructed around the perimeter of the excavation area, and a 1-foot-high rabbit fence was constructed around the berm. Pond Nos. 2, 3, 4, and 5 were also excavated in August 1987 to depths ranging from 6 inches on the sides to 4 feet in the center. The liners in Pond Nos. 2 and 3 were completely removed and disposed of during the excavation. Pond Nos. 4 and 5 did not contain liners. The berms between the ponds were not excavated. All excavated materials were disposed of off-Site at a Class I landfill. In total, 440 cubic yards of material were excavated.

3.2 Report on Activities Performed - Kennedy/Jenks, 1992

AT&SF agreed to perform the following bulleted activities under an Administrative Order on Consent (USEPA Docket 91-23). This order was based on the results of a 1991, Site Assessment and a Listing Site Inspection (E&E, 1991a and 1991b). The activities completed under this order include:

- The perimeter fence was moved to enclose an additional area along the railroad tracks at the western boundary of the property.
- The liquids within product drums, storage tanks, and piping systems were chemically characterized.
- The product drums, storage tanks, and piping systems were removed and properly disposed of.
- The acid spill area was characterized and remediated, and confirmation samples were collected and analyzed for pH.
- The City water main piping, which conveyed water from the City of Shafter Well No. 10 across the Site, was rerouted to go around the Site.
- The areas where shallow soil impacts were of concern to the USEPA were paved with asphalt or concrete and sealed.
- Surface drainage controls, specifically berms, sumps, and on-Site storage tanks, were installed.

- An on-Site water treatment system that was previously installed by Brown & Bryant was used to treat water by filtration and carbon adsorption.
- A Temporary Industrial Wastewater Discharge Permit was obtained from the City of Shafter.

In addition to the above referenced actions, the approximately 30 percent of the site was paved and the berms were constructed in 1993; in August 2005 the asphalt cover was repaired and in September 2005 an additional synthetic liner was installed in Pond No. 1.

A soil venting pilot test was completed for the site in 2006 (Shaw 2006) and was evaluated in the FS.

4.0 Summary of Site Risks

4.1 Site Conceptual Model

Figure 4-1 presents the conceptual exposure model developed to describe the exposure setting under site-specific exposure scenarios (EHD, 2006a). Given these scenarios, there are several potential exposure pathways through which a receptor may come in contact with COPCs at the Site. Four elements, a COPC source, a release mechanism, an exposure pathway, and a receptor must be present for an exposure pathway to be deemed complete: The following sections provide details on these exposure pathways.

4.1.1 Chemical Sources

The following sources have been identified at the site:

- Residual chemicals within the top 10 feet of soil (matrix and soil gas)
- Residual chemicals from 10 feet bgs down to the first-encountered water-bearing zone (matrix and soil gas)
- Residual chemicals in groundwater

These sources and the resultant conceptual exposure model presented in Figure 4-1 address all COPCs found at or originating from the Site. The division of soil sources is based on the potential for direct exposures, typically assumed to be within the top 10 feet for intrusive activities (construction) and the top 2 feet for more passive uses (residential). The identified environmental media may also act as reservoirs for COPCs that slowly migrate to other environmental compartments and serve as indirect sources of human exposure.

4.1.2 Release, Fate and Transport Processes

The COPC sources discussed above can be divided conceptually into two categories: 1) direct sources, such as shallow soils, which are readily available for potential receptor exposures, and 2) indirect sources, such as groundwater and deep subsurface soil, which are not readily available for receptor exposure and require an intermediate release and transport mechanism before receptors can be exposed. The identified mechanisms for COPC release and transport for indirect sources are leaching of chemicals from soil to groundwater, volatilization of VOCs from site soils, dust and particulate emissions, and migration of dissolved contaminants with groundwater flow. These release mechanisms and their impact on risks to human receptors are as follows:

- Leaching – There is evidence from site specific subsurface soil sampling and analysis indicating volatile organic compounds are being leached and migrating down into deeper portions of the soil column. SESOIL modeling results presented in the SRA

(EHD, 2006) predict that no chemicals found in site soils will have a future impact on groundwater quality in the Shafter area.

- Volatilization – Chemicals with relatively high vapor pressures are present in site soils. Therefore volatilization was identified as an exposure pathway which was evaluated during the risk assessment.
- Dust and Particulate Emissions – Transport of chemicals adsorbed to dust or soil particles was identified as an exposure pathway requiring evaluation in the risk assessment.
- Groundwater - the RI Report concluded that the groundwater underlying the Shafter area is regionally contaminated with agricultural chemicals (EMCON, 1995). Kern County Environmental Health Services indicated that DBCP concentrations exceed 2.0 ppb within one mile north and east of the Site; and EDB concentrations exceeding 1.0 ppb 2 miles south of the Site. The DBCP and EDB concentrations detected in groundwater samples from the Site monitoring wells are at or below the regional concentrations for these constituents. The groundwater flow direction fluctuates across the site from southwest to west. All groundwater data collected through 1999 were used in the risk assessment.

4.1.3 Receptors and Exposure Pathways

The human receptors evaluated during completion of the risk assessments include construction workers, site workers (i.e., maintenance workers), off-site residents, and future on-site commercial/office workers and future on-site residents. Some or all receptors were exposed to chemicals at the site through:

- Inhalation of suspended particulates in outdoor air
- Inhalation of organic vapor in outdoor air
- Inhalation of particulates migrating from outdoor to indoor air
- Inhalation of organic vapor that migrates from outdoor to indoor air or from the subsurface to indoor air
- Inhalation of COPCs released during tap water usage
- Dermal contact with surface soils
- Dermal contact with groundwater via baths and showers
- Incidental ingestion of soil containing COPCs
- Ingestion of groundwater containing COPCs
- Ingestion of fruits, vegetables, and grains containing COPCs due to irrigation with groundwater containing COPCs

4.2 Overview of Baseline Risk Assessments

Since completion of the early site investigations, extensive risk assessment activities have been performed. These initial risk assessment activities were documented in the Draft Remedial Investigation/Feasibility (RI/FS) Study Workplan (EMCON, 1993 and 1995), Risk Assessment Interim Deliverable (EMCON, 1996), the Baseline Risk Assessment (EMCON, 1997c), Risk Assessment Data Usability Evaluation (IT, 2000), and the revised Baseline Risk Assessment (IT, 2001).

Throughout this time period, the Human and Ecological Risk Division of Cal EPA prepared extensive comments on the submitted documents, and responses to those comments were prepared and submitted to DTSC. Following the initial risk assessments the Supplemental Risk Assessment, Former Brown and Bryant Shafter Facility (EHD, 2006a) was developed and submitted to DTSC and HERD as the consensus human health risk assessment for the site. Risk –based Cleanup Goals (RBCG) were also developed by EHD, 2006b and subsequently revised by HERD (California Department of Toxic Substances Control, 2006). An ecological screening assessment (EHD, 2007) was submitted as a companion document to the human health risk assessment.

4.2.1 Human Health Risk Assessment

The following COPCs and subsequent risk assessment reflect the agreed upon methodologies for the assessment of potential risk to current and future site users and off-site residents. At the request of HERD/DTSC, the site was subdivided during the risk assessment into six Areas of Potential Concern (AOPC). AOPC are shown on Figure 1-4 and were developed to achieve the following:

- Accounting for various prior uses in each area where different “driving” chemicals were used
- Accounting for potential areas of higher concentrations of chemicals (i.e., hot spots)
- Providing a means by which risk management decisions can be made on an area-specific basis.

The SRA evaluated exposures to on-site construction workers, on-site commercial/industrial workers (i.e., employees of any new facility), off-site adult residents, and off-site child residents. The commercial/industrial land use as modeled is generally consistent with existing controls and surrounding land use. In developing the exposure scenarios for the SRA, in creating preliminary RBCGs, and in developing RAOs for the Feasibility Study (Shaw, 2007b), it was assumed that:

- Future development of the Site will be limited to commercial/industrial land use.
- During construction, controls and security will minimize trespassing.

- After development, the Site will continue to have controls typical of commercial or industrial facilities.

These assumptions are consistent with the federal and state risk assessment guidance (USEPA, 1989a and Cal/EPA, 1992).

DTSC typically uses an incremental lifetime cancer risk (ILCR) ranging from 1 in 10,000 (i.e., 10^{-4}) to 1 in 1,000,000 (i.e., 10^{-6}) depending upon site conditions. For this site, under controlled commercial/industrial land use conditions, an ILCR of 1 in 100,000 (i.e., 10^{-5}) and a hazard index (HI) of 1 as the point of departure are used for establishing risk management goals. As such, acceptable risk levels are those below an ILCR of 10^{-5} and a HI of 1. SRA results (excluding groundwater exposures) by AOPC are summarized in Table 4-1 and are as follows;

AOPC 1: AOPC 1 is located in the northwestern portion of the site. Risks to the construction / worker are within the acceptable limits. Noncarcinogenic risks to the on-site commercial industrial worker are within acceptable limits; however, the cancer risk to this receptor exceeds the 10-5 risk management goal due mainly to exposure to toxaphene via incidental ingestion and dermal contact.

AOPC 2: AOPC 2 is located in the western portion of the site and includes the majority of the ASTs present on the site property. The projected risk to the on-site construction worker exceeds the risk management goal. Dieldrin and PCBs (incidental ingestion and dermal contact pathway) drive the projected risk. It should be noted that PCBs were not detected in AOPC 2 soils; unacceptable risks are due solely to the presence of elevated detection limits for PCB compounds. Dieldrin was detected in one sample above the RBCG. Risks to the construction worker exceed the acceptable limits. The risk to the on-site commercial industrial worker is also projected to exceed acceptable limits for carcinogenic and non-carcinogenic incidental ingestion and dermal contact exposures. Specifically, residual concentrations of dieldrin, toxaphene, arsenic, DDT, and chlordane drive the projected risks and hazards. It is important to note that that the exposure point concentration for chlordane reflects the highest non-detect value, even though this chemicals was not detected in the soil from AOPC 2.

AOPC 3: AOPC 3 is located within the central portion of the site and includes Pond 1 and a majority of the ASTs not located within AOPC 2. Residual impacts in AOPC 3 are projected to pose an unacceptable hazard to the on-site construction worker primarily through inhalation of 1,2-dibromoethane, and 1,2 dichloropropane. The projected risk to on-site commercial industrial workers exceeds the acceptable limit for carcinogenic and non-carcinogenic indoor vapor inhalation exposures also due to the presence of 1,2-dibromoethane and 1,2-dichloropropane in the subsurface.

AOPC 4: AOPC 4 contains the undeveloped portion of the site located along the northern and northeastern site boundary. Risks to the construction worker are within the acceptable limits. Noncarcinogenic risks to the on-site commercial industrial worker are within acceptable limits; however, the estimated cancer risk to this receptor exceeds the 10-5 risk management goal due mainly to exposure to arsenic. It should be noted that arsenic concentrations in AOPC 4 were determined to be below background concentrations but were included in the risk calculations per DTSC requests.

AOPC 5: AOPC 5 contains the fertilizer and pesticide rinse water sumps and can enclosure area and is located in the south-central portion of the site. Projected carcinogenic risks and noncarcinogenic hazards are below the risk management levels for commercial / industrial land use under the on-site construction worker exposure scenario. The projected risk for the commercial / industrial worker exceeds risk management levels primarily as a result of arsenic and 4,4-DDE concentrations in soils. It should be noted that arsenic concentrations in AOPC 5 were determined to be below background concentrations but were included in the risk calculations per DTSC requests.

AOPC 6: AOPC 6 contains Ponds 2 through 5 and is located within the southeastern corner of the site. The projected risk for the on-site construction worker exceeds the risk management goal for noncarcinogenic effects due to the inhalation of ambient air containing DBCP. It should be noted that DBCP was detected in some but not all soil samples collected from AOPC 6. As requested by HERD, the highest detection limit was used as the exposure point concentration for samples with nondetectable concentrations. Because the highest detection limit for DBCP was an order of magnitude higher than the detection limits used for samples from other AOPCs, the potential hazards to the on-site worker in AOPC 6 have been significantly overestimated. The projected risk to the on-site commercial industrial worker exceeds the risk management goals for carcinogenic and noncarcinogenic exposures. Residual concentrations of dieldrin, DBCP and PCBs drive the projected risks and hazards. However, as requested by HERD, the highest detection limit was used as the exposure point concentration for samples with nondetectable concentrations. Because the highest detection limit for these compounds in surface soil was one or two orders of magnitude higher than the detection limits used for samples from other AOPCs, the potential hazards to the on-site worker in AOPC 6 have been significantly overestimated.

Off-Site Receptors – Off-site residents can be exposed to particulates containing site-related compounds by fugitive dust emissions from the site. Risk calculations were completed within the SRA based on refined air dispersion modeling. Air dispersion calculations indicate that the carcinogenic risks and non-carcinogenic risks to off-site residents are likely to be below regulatory risk management levels.

4.2.2 Ecological Screening Assessment

The ecological screening assessment (ESA) (EHD, 2007) was developed to evaluate the potential for risks to the environment from contaminants present at the site. This assessment concluded that due to the lack of suitable on-site habitat, limited accessibility to the site and partial capping of the site, the current site conditions present relatively low ecological risk The report also concluded by stating that no further action based on the protection of hypothetical ecological receptors should be required at the site. The ESA likened these current conditions to the background risks associated with the risk to ongoing agricultural and industrial activities in the surrounding area. When these current site conditions described in the ESA are further enhanced by the extensive remedial actions proposed in the FS, ecological risk will be even further diminished.

4.3 Determination of Cleanup Goals

Health-based cleanup levels (HBCLs) or risk-based cleanup goals (RBCG) were developed for the COPC list approved by DTSC which include 53 compounds (VOCs, pesticides, herbicides and inorganics) found in soil and soil-gas samples at the site and submitted for review by DTSC in May 2006 (EHD, 2006b). By correspondence dated November 17, 2006, the DTSC forwarded site-specific, alternate RBCGs, (Karen DiBiasio, PhD HERD to Calden Koehn, Site Mitigation Branch, DTSC November 16, 2006). Background concentrations presented in Table 1-1 of the Final FS (Shaw, 2007b) have been adopted as preliminary RBCGs for inorganics. The complete set of RBCGs is presented as Table 4-2.

Chemical-Specific Remediation Goals

For soil, there are 53 organic compounds (21 carcinogens and 32 non-carcinogens) with RBCLs as established by HERD. HERD derived preliminary soil RBCGs for industrial/commercial workers and construction workers for these 53 chemicals. Preliminary soil RBCGs for individual chemicals were developed by setting a target hazard index of 1.0 and a risk of 1 in 100,000 (1×10^{-5}). Individual chemical-specific RBCG values were then adjusted to achieve a cumulative total risk of 1×10^{-5} and a total hazard index of 1.0. The methodology HERD employed for calculating preliminary RBCGs involved dividing each carcinogen-based RBCG by 21 (the number of RBCGs based on carcinogenic risk), for a final cumulative risk of 8.4×10^{-6}. Thirty two (32) of the preliminary RBCGs were based on non-carcinogenicity, rendering the cumulative hazard index for the final RBCGs at 0.02.

In addition to developing soil RBCGs, HERD developed a set of soil gas RBCGs for 32 compounds, which are also presented in Table 4-2.

Remedial Strategy for Site Soils and Development of Soil Volume Estimates

Remediating soils to these preliminary RBCGs for all compounds across the entire site would result in cancer risk levels being mitigated to below 1×10^{-5} and non-cancer risk levels to below 1.0. A remedial strategy was developed and implemented throughout the FS taking into account the future proposed commercial or industrial land use. This strategy identified COPCs that contribute most significantly to site risks (e.g., identify the risk drivers) and develop soil volumes for remediation that are protective of human health but are not overly conservative. A key component of the remedial strategy is the completion of a post-remediation risk evaluation. The post-remediation risk evaluation will use the existing historic data (where applicable) and the post-remediation confirmation data to ensure the health-based objectives identified in the FS and in this RAP were met by the remedial actions.

Identification of COPCs Contributing Significantly to Site Risks

COPCs contributing significantly to site risks were identified in the SRA (EHD, 2006). A concentration / toxicity risk screen was also completed during the FS (Shaw, 2007) for organic compounds found on site to further support the findings of the SRA. The results of the toxicity / concentration screening and the conclusions of the 2006 human health risk assessment led to the development of list of chemicals of interest (Table 4-3) for the site. Estimates of pesticide, herbicide, VOC and arsenic impacted soils requiring remediation were developed based on this table (see Section 5.2 of this RAP).

5.0 Summary and Evaluation of Alternatives

There are four key elements to evaluating remedies for the site. These are:

- the remedial action objectives (RAOs), which are the goals of any remedy considered
- the Applicable or Relevant and Appropriate Requirements (ARARs)
- the preliminary screening of technologies that could be used to remediate the site, and
- definition of the remedial action alternatives and their component activities

This section compares and analyzes the relative advantages and disadvantages of each RAA

5.1 Remedial Action Objectives

The RAOs are specific goals for protecting human health and the environment. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) at 40 Code of Federal Regulations (CFR) 300 specifies that RAOs must be developed to address the following site-specific elements:

- chemicals of concern
- media of concern
- receptors of concern

RAOs are developed by evaluating the results of the site investigations and the risk assessments, as well as both ARARs and "To Be Considered" (TBC) criteria. RAOs describe the remedial actions needed to protect human health, ecological receptors, or both. Narrative RAOs were developed based on the results of the site characterization and risk screenings of the site.

5.1.1 Soil and Soil – Gas RAOs

Stated RAOs, developed for soil and soil gas are as follows:

- Prevent ingestion, inhalation or direct contact with soil containing contaminants of concern at concentrations in excess of total hazard index of 1 and/or a cumulative excess lifetime cancer risk of 1×10^{-5} for on-site commercial industrial receptors and future on-site construction workers.

- Prevent inhalation of particulates originating from the site containing contaminants of concern at concentrations in excess of total hazard index of 1 and / or a cumulative excess lifetime cancer risk of 1 x 10-6 for off-site residents.

- Minimize the potential for contaminants present in the soil column to migrate to groundwater due to leaching by the downward movement and infiltration of surface precipitation.

- Remediate the past practice hazardous waste management unit at Pond 1 (Pond 1 Closure).

5.1.2 Groundwater RAOs

Although not specifically addressed in the risk assessment, groundwater in the shallow aquifer beneath the site is contaminated with VOCs such as EDB, 1,2-DCP, that were used on site. However, groundwater contamination beneath the site appears to be indistinguishable from regional groundwater contamination in the Shafter area (DTSC, November 17, 2006). RAOs for groundwater are as follows:

- Prevent future use of the on-site groundwater contained within the upper or unconfined aquifer as a drinking water source.
- Monitor groundwater to detect early signs of migration of contaminants in the soil and unsaturated zone.
- Demonstrate that the threat of adverse impacts to regional groundwater resources from potential migration of contaminants from the unsaturated zone at the site has been addressed.

These RAOs were used as the foundation for developing suitable remedial action alternatives (Shaw, 2007). Ultimately, the selected alternative for remediating the site must be shown to satisfy each of the RAOs.

Soil Volume Estimates

Prior to the development of soil volume estimates the type and distribution of contaminants was evaluated. Of significance to the application of cleanup technologies at the site is the distribution of compounds both laterally across the site and vertically within the soil column. These factors are:

- Pesticide and herbicide detections exceeding preliminary RBCGs are generally restricted to the top 2 to 4 feet of the soil column. This is as anticipated as a majority of these compounds are relatively insoluble and are not readily dispersed vertically down through the soil column by the action of infiltrating precipitation or surface runoff.
- Fate and transport of metals detected within site soils, particularly the arsenic, indicates it should be bound within the upper portions of the soil column.
- VOC compounds such as EDB, etc. due to their higher solubilities and therefore higher mobilities are detected at greater depths within the soil column than the pesticides, herbicides, and metals.

Because exposure scenarios involving both the deeper VOCs and shallower pesticide/herbicide/metals compounds contribute to the site risks the initial part of the remedial strategy is to develop soil volume estimates for near surface areas of the site contaminated with pesticides and/or herbicides and then for areas of the site contaminated with VOCs to depths of approximately 120 feet.

Soil Volume Estimates for Surface and Near Surface Soils (0 to 11 ft bgs)

Available chemical-specific toxicity and concentration data, the frequency of detection and the preliminary RBCG were used to develop a map of the site identifying areas which, if remediated, would reduce site risks to acceptable levels. Thirty-three areas of the site were delineated following this methodology. These areas are presented on Figure 5-1 (Cells 1 through 25) and contain an estimated 3,700 cubic yards of soil. The cells are described in more detail on Table 5-2. An additional 550 cubic yards of soil within the western portion of Pond 1 are included in the overall cost estimate.

Soil Volume Estimate for Deeper VOC-contaminated Soils

Areas of the site where either EDB, DBCP, 1,2-DCP and / or 1,2,3-TCP are detected in excess of the preliminary RBCG are presented on Figures 5-2. As shown on these figures there are two relatively large portions of the site underlain by these compounds and several smaller areas. The large areas and the estimated volume of contaminated soil includes:

- Approximately 429,770 cubic feet of soil located within the AOPC 2 area, and
- Approximately 756,000 cubic feet of soil located within AOPC 3 and beneath the Pond No. 1 Area.

VOC contaminated soil beneath the AST area in AOPC 2 and beneath the Pond 1 area extends from near-surface to approximately 120 feet bgs. Superimposed on Figure 5-2 are the calculated radius of influence of soil vapor extraction wells installed and evaluated by Shaw (2006).

5.2 ARARs and Other to Be Considered Guidance

The site is being remediated under the authority of the DTSC, the California Code of Regulations (CCR) Health and Safety Code Sections 25355.5(a) (1) (B) and 25358.3 (a). The State Health and Safety Code Division 20, Chapter 6.8 establishes the process and framework for DTSC Site Mitigation oversight of the remedial action under the Hazardous Substance Cleanup Fund (HSC 25355.5) and establishes the CERCLA process (40 CFR 300.400 *et seq*) as the basis for planning and approval of the remedy (HSC 25456.1). Under CERCLA, remedial actions draw on other Federal and State environmental laws and regulations, known as “applicable or relevant and

appropriate requirements" (ARARs). The NCP defines "applicable" and "relevant and appropriate" requirements as follows:

> *Applicable requirements* means those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under Federal environmental or State environmental or facility citing laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site.
>
> *Relevant and appropriate requirements* means those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under Federal environmental or State environmental or facility citing laws that, while not applicable to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site.

Remedial actions must comply with the ARARs promulgated under any Federal environmental law or any more stringent standard promulgated under State environmental law. The selected remedy must attain and be consistent with the ARARs, unless these requirements are waived or a variance is granted.

Federal and State standards that lack general applicability or are not legally enforceable, policies, guidance documents, or local requirements are not ARARs. However, they can be considered when evaluating the remedial actions necessary to protect human health and the environment. These standards are the "to be considered" (TBC) criteria. Although TBCs are not potential ARARs because they are neither promulgated nor enforceable, they can be consulted to develop remedial goals when ARARs do not exist for particular contaminants or when information is needed as to how to carry out certain actions or requirements.

5.3 Location-, Chemical- and Action-Specific ARARs

ARARs fall into three groupings: location-specific, chemical-specific, and action-specific requirements. Local, State and Federal ARARs are shown on Table 5-1. Non-promulgated advisories or guidance issued by federal or state governments are not legally binding and do not have the status of ARARs. Such requirements may, however, be useful, and are "to be considered" (TBC).

Chemical Specific ARARS evaluated for this feasibility study include federal and the more stringent state requirements that define what constitutes hazardous waste, necessary to determine appropriate waste management and disposal actions. The clean up levels in Brown and Bryant,

Shafter Facility- Risk-Based Cleanup Goals Memorandum, November 17, 2006 are chemical specific clean up level guidance to be considered. State and Federal MCLs for groundwater also were identified as ARARs for this remedial action.

Location specific ARARs included the Federal Clean Air Act regulations which authorized the California State Implementation Plan (SIP). California Air Quality Management Districts establish local rules and regulations under the SIP. Substantive requirements promulgated by the San Joaquin Air Pollution Control District related to the remedies evaluated were considered applicable. These were treated as location specific ARARs but are actually technology driven as well. In addition, Federal requirements related to preservation of archaeological and historical resources were considered applicable, although it is unlikely that any such resources will be encountered at the already disturbed site. Federal and state requirements to protect threatened and endangered species were considered relevant and appropriate although the ecological risk assessment did not identify such species are present at the site.

Action Specific ARARs that were applicable Federal requirements include certain provisions of the Federal RCRA regulations, and California is federally authorized to administer RCRA requirements under the state Hazardous Waste Control Law. Accordingly, RCRA related ARARs are identified as part of the State Hazardous Waste Control Law discussed below. SWRCB Res. 68-16 (Policy With Respect to Maintaining High Quality of Waters in California) was selected as a relevant and appropriate requirement because it relates to protection of water quality. Regional groundwater has been impacted by contaminants also present at the site, but evidence of discharge to regulated waters of the state has not been established; contamination attributable to the site has been detected in the unsaturated zone and RAOs are developed consistent with this policy. The SWRCB Res. 92-49 (Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304) is not identified as an ARAR for the evaluation because it establishes the SWRCBs policy for setting groundwater cleanup levels if background levels cannot be restored. The remedial actions being evaluated are all intended to maintain background levels in groundwater.

5.4 Preliminary Technology Screening

The process options that passed through the preliminary screening were then further qualitatively screened against the primary balancing criteria of effectiveness, implementability, and relative cost. The following process options were selected as representative:

Technology	Representative Process Options
Legal Mechanisms	Deed Restrictions
Educational Controls	Land Use Covenants
Engineering Controls	Fence
	Warning Signs
	Surface Controls
	Dust Control
Cover	Title 27 Prescriptive Cover (Alternative Design)
	Asphaltic Concrete Cover
In-situ treatment	Soil Vapor Extraction (SVE)
SVE Off Gas Treatment	Carbon Adsorption
Excavation and Offsite Disposal	California Class I Landfill
	Solid Waste Landfill
Monitoring	Groundwater and Unsaturated Zone Monitoring Program

5.5 Development of Alternatives

This technologies and process options retained for further consideration were developed as candidates for the preferred Remedial Action Alternative (Shaw, 2007).

Remedial Action Alternative (RAA)	Media	General Response Action	Technology	Process Option
RAA 1	All	No Action	None	None
RAA 2	Shallow Soil, Deep Soil, Closure of Pond 1, and Groundwater	Institutional Controls	Legal Mechanisms	Deed Restrictions
			Educational Controls	Land Use Covenants
			Engineering Controls	Fence, Signs, Surface Controls, and Dust Control.
		Monitoring	Title 23 Monitoring	Groundwater Monitoring Program
RAA3	Shallow Soil	Removal	Excavation and Offsite Disposal	California Class I Landfill
				Subtitle D Landfill
	Deep Soil	Onsite Treatment	In-situ Treatment	Soil Vapor Extraction
			Off Gas Treatment of Soil Vapors	Carbon Adsorption
RAA4	Pond 1 Closure	Removal	Excavation and Offsite Disposal	California Class I Landfill
		Containment	Cover	Title 27 Prescriptive Cover (Alternative Design)
		Monitoring	Title 23 Monitoring	Groundwater Monitoring Program
RAA5	Pond 1 Closure in Place	Containment	Multimedia Cap	Title 27 Prescriptive Cover (Alternative Design)
		Monitoring	Title 23 Monitoring	Groundwater Monitoring Program and Unsaturated Zone Monitoring Program

The Remedial Action Alternatives (RAAs) are described in the following sections.

5.5.1 RAA 1: No Action

The no-action alternative is required by the NCP to provide a baseline for comparison with other RAAs that provide a greater level of response. Under no action, no physical remedial actions would be performed to reduce the toxicity, mobility, or volume of contaminants at the former Brown and Bryant Shafter facility. There would be no physical changes to the site conditions and contaminants would be expected to remain in the soil an extended period of time, with any changes occurring only through natural processes. Contaminants could also potentially migrate via wind or stormwater erosion. Risk to human health would remain the same as under present conditions as long as the present materials remained undisturbed.

5.5.2 RAA 2: Institutional Controls, Groundwater Monitoring, and Reporting

RAA 2 establishes Institutional Controls (ICs) to protect human receptors from ingestion, inhalation, and direct contact with contaminants or residual in soil. The proposed ICs consist of deed restrictions, LUCs, and the engineering controls of fencing, warning signs, surface controls, and dust control. Additionally, RAA 2 continues existing periodic groundwater monitoring to determine if soil contamination at the site is affecting water quality.

Deed restrictions rely on private property law to restrict or affect the use of the property. They can be implemented without the intervention of regulatory authorities and are advisable when restrictions are intended to be long term or permanent (i.e., residual contamination left in place while preventing unrestricted use). Deed restrictions would be implemented to prohibit the development and use of the property for residential housing, traditional public or private school for persons less than twenty one years of age, childcare facilities, long-term care hospital and playgrounds. Additionally, restrictions would be put in place to prevent future use of onsite groundwater from the upper aquifer as a drinking water source and to maintain cover over the site until the deep soils are remediated.

LUCs are informational devices that are enforceable; they are informational document filed in public land records that notify potential property owners, renters, and leases searching the records that important information exists regarding the status of the property. They can be used to discourage inappropriate land use and identify that residual contamination above residential cleanup goals is present at the site that prevents unrestricted use such as residential development, daycare facilities, schools, and playgrounds. The LUC is not an interest in real property; but if alerts the property owner regarding the future use of the property that (i.e., they are unenforceable) includes limiting land use to industrial.

Signs will give notice regarding the presence of hazards on a site; they will inform or warn but cannot stop trespassing. The existing perimeter fence will continue to prevent public access to

the site. Routine inspection and maintenance will remain in effect to identify necessary repairs. A fence works well in conjunction with signs as useful deterrents to trespassing and controlling access.

The existing surface controls will be maintained and improved to control infiltration, runoff, and erosion, thus limiting the potential for contaminant migration. Physical measures include site grading, asphaltic concrete cover, and surface water diversion. The existing asphalt cover will continue to provide control of dust transport and exposure.

The current approved groundwater monitoring and reporting program for the former Brown and Bryant facility will continue through remedial action. It is assumed for cost estimating that monitoring will continue for 10 years after implementing remedial action. Presently, five onsite monitoring wells are sampled on an annual basis for laboratory analysis of chlorinated herbicides, volatile organic compounds (VOCs) including 1,2-dichloropropane, total arsenic, phosphorus and orthophosphate, ethylene dibromide (EDB), dibromochloropropane (DBCP), and 1,2,3-trichloropropane (1,2,3-TCP). The wells are additionally sampled every five years, where the next sampling event is 2007, for organochlorine pesticides (OCPs), poly chlorinated biphenyls (PCBs), organophosphorus pesticides (OPPs), and carbamate and urea pesticides. Annual groundwater monitoring reports are submitted to DTSC in February documenting the findings for the previous year.

5.5.3 RAA 3: Soil Vapor Extraction, Excavation and Offsite Disposal

The primary components of RAA 3 are excavation and offsite disposal of shallow soils affected by pesticide and metals and in-situ soil vapor extraction of deep soil affected by volatile organic compounds. The shallow soils shown on Figure 5-1 will be disposed of offsite either at a Class I landfill or a Subtitle D landfill. Approximately 5,100 tons of pesticide and metal affected shallow soil will be excavated from several different locations throughout the site. This estimate allows for some over excavation for areas not fully bounded by analytical data currently. Demolition of concrete, asphalt, and other existing structures will be required to gain access to the areas to be excavated. Excavation of soil will be accomplished by using conventional earth-moving equipment, including backhoes, bulldozers, graders, and front-end loaders.

Shallow soil, predominantly two feet below ground surface but likely no deeper than six feet, in the remediation areas will be excavated and staged on the northeastern side of the site. Prior to backfilling each individual excavation, confirmation samples will be collected and analyzed per the remedial action work plan to be submitted for DTSC approval prior to field mobilization. Excavated areas will be backfilled with compacted clean soil and covered with gravel sub base and asphalt.

Soil piles will be sampled and profiled and disposed of in either a Subtitle D landfill (non-hazardous material) or in a Class I Landfill (hazardous material). For purposes of cost estimating for this FS, it is assumed that all soil will require disposal at a Class I hazardous waste landfill.

The deep soil affected with VOCs (see Figure 5-2) will be remediated using SVE. This technology involves collection of soil vapor from the unsaturated zone by applying a vacuum at a series of extraction points. The vacuum not only draws vapor from the unsaturated zone, but also decreases the pressure around the soil particles, thereby releasing additional volatiles. In addition, due to the pressure differential, clean air from the atmosphere enters the soil to replace the extracted air.

The pilot test conducted in October 2006 (Shaw, 2006) showed SVE to be a feasible and effective technology for removing the VOCs from the deep soil at this site. To provide flexibility of operation, the two impacted areas of contamination shown on Figure 5-2 will each have their own SVE system. The major components of each SVE system will include: existing and new vapor extraction wells, necessary piping and valves, and a positive displacement or regenerative blower. The discharged air from each system would be sent through two activated carbon units plumbed in series. The spent carbon would be regenerated for reuse. If carbon adsorption technology proves to be cost-prohibitive, other emission control technologies may be applied. In any case, emissions controls will meet San Joaquin Air Pollution Control District requirements for SVE treatment of VOC-contaminated soil. Sampling will be conducted during the SVE system operation to ensure compliance with air quality regulations and to determine the effectiveness of the system. Closure confirmation sampling would include confirmation of soil at depth, soil gas sampling or demonstration of an asymptotic decline. The results would be incorporated into a post remediation evaluation to insure that health-based objectives are met A more complete protocol for this post remedial evaluation will be addressed in a remedial action work plan to be submitted for DTSC approval prior to field mobilization.

The SVE system has been estimated to remediate the AST and Pond 1 areas in approximately 1 and 4 years, respectively, to acceptable risk levels. The conceptual design of the SVE system was presented in Appendix A of the Final FS (Shaw, 2007). Operation and maintenance is anticipated on a monthly basis for the duration of the system operation.

5.5.4 RAA 4: Contaminated Soil Removal and Closure of Pond 1

RAA 4 proposes closure of Pond 1 where the contaminated soil associated with Pond 1 will be removed until the confirmation sampling and laboratory analysis shows the residual contaminants are below the preliminary cleanup levels. After removing the affected soil, the pond would be backfilled with clean compacted soil, and covered with an alternate design of a Title 27 prescriptive cover. Post closure would include groundwater monitoring.

Pond 1 and the sand trap/wash pad were previously excavated in August 1987; pond sediment, liners, and approximately three feet of soil below the liner and the Pond structures were excavated (Cannonie Environmental, 1988a). The approximately 1700 cubic yards of material was transported and disposed of at the Kettleman Hills Class I Landfill. Additionally, a temporary liner was placed in the pond and all surface runoff connections leading to Pond 1 were disconnected. A berm was constructed around the pond to divert runoff. In September 2005, a new pond liner was installed over the existing liner.

Based on the soil sampling results of the pond and sand trap/wash pad excavation performed in 1987 (Cannonie Environmental, 1988a and b), RAA 4 proposes closing the pond after additional spot excavation and confirmation sampling. The excavation will be centered on the "SUMP" and "1W" sample locations as shown on Figure 5-1. The approximate 120 foot by 40 foot area will be excavated 3 feet below grade where three confirmation samples from the excavation floor and six confirmation samples from the excavation sidewalls will be collected for laboratory analysis for metals, pesticides, SVOCs, and VOCs. If confirmation samples indicate concentrations above preliminary cleanup goals, another 1 feet of soil will be removed from the bottom of the excavation or the sidewalls over-excavated and resampled until clean soil is found. The enclosed estimate assumes the initial excavation of three feet below grade will be sufficient for clean closure which equates to approximately 550 cubic yards of contaminated soil to be transported and disposed of as non RCRA hazardous waste at a Class I Landfill. The size and boundaries of the excavation proposed for pond closure under RAA 4 may change based on any additional fieldwork completed to address data gaps identified by DTSC (DTSC, June 5, 2007). A more complete assessment of the data gap issues will be addressed prior to field mobilization in a remedial action work plan to be submitted to the DTSC for approval.

After verifying removal of contaminated soil from the sand trap/wash pad area by confirmation sampling, the sand trap/wash pad and entire pond will be backfilled with clean imported soil. The remaining pond bottom liner will be left in place. The backfill will be compacted to grade and covered with a Title 27 alternative design cover. The area will be graded to provide drainage away from the backfilled pond. The cover would include three layers:

- The remaining liner at the bottom of the pond installed in 2005
- Compacted backfill over the liner to one foot above grade to serve as a foundation layer for the cover
- Cover consisting of a gravel sub base and asphalt-concrete pavement slightly domed to promote drainage.

A groundwater monitoring program will be initiated for a five year period, after which, DTSC will be petitioned to discontinue the program based on compliance demonstration.

5.5.5 RAA 5: Pond 1 Closure in Place

RAA 5 proposes including Pond 1 and the sand trap/wash pad within the risk based remediation of the entire Brown and Bryant Shafter facility. This alternative would rely on RAA 3 to remediate the shallow VOCs detected at the SUMP and 1W sample locations (Canonie, 1988a and b). The metals and dinoseb detected in those sample locations would be contained by the proposed cover.

Pond 1 and the sand trap/wash pad would be covered with a Title 27 alternative design cover to isolate the backfilled pond from precipitation. The pond, with the existing pond bottom liner left in place, would be backfilled to grade with clean compacted soil. The compacted backfill would be graded to provide drainage away from the backfilled pond and covered. The alternative design cover would include six layers:

- The existing liner at the bottom of the pond installed in 2005
- Compacted backfill over the liner to one foot above grade to serve as a foundation layer at the base of the cover
- Geotextile to protect the synthetic liner
- Synthetic liner, consisting of a geomembrane sheet such as high-density polyethylene or linear-low density polyethylene
- A drainage layer above the synthetic liner, consisting of either a plastic drainage net or a layer of free-draining sand and gravel
- An asphalt-concrete cover consisting of a gravel sub base and asphalt-concrete pavement slightly domed to promote drainage off of the cover.

A plan approved by the DTSC for groundwater and unsaturated zone monitoring will be initiated for a prolonged period (30 years for cost estimating purposes) with 5 year reviews for reevaluation. For cost estimating, it is assumed the existing annual groundwater monitoring program is sufficient and will continue past remediation (see Section 4.2 for description), and unsaturated zone monitoring would be periodically conducted on 5 year intervals using standard or innovative sample collection technologies. Upon demonstration that the unit is not contributing to groundwater contamination, the DTSC will be petitioned to discontinue the program based on demonstration that RAOs for groundwater protection have been achieved. In addition, off gas samples from the venting wells and the SVE systems exhaust will be collected quarterly and monthly, respectively, to verify the effectiveness of the SVE system in attaining preliminary vapor clean up goals. Confirmation sampling would include confirmation of soil at depth or soil gas sampling to demonstrate that the SVE treatment RAOs have been achieved

5.6 Alternatives Analysis

A detailed analysis was completed to provide sufficient information to compare the alternatives, select an appropriate remedy for the site, and demonstrate satisfaction of the CERCLA remedy selection requirements in the remedial design. The detailed analysis of alternatives was conducted in accordance with the *Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA* (EPA, 1988) and the NCP. As described in the EPA RI/FS Guidance, the detailed analysis for individual alternatives consists of the following three sets of analysis involving nine evaluation criteria:

Threshold Criteria

- Overall protection of human health and the environment
- Compliance with ARARs

Balancing Criteria

- Long-term effectiveness and permanence
- Reduction of toxicity, mobility, or volume through treatment
- Short-term effectiveness
- Implementability
- Cost

Regulatory/Community Criteria

- State acceptance
- Community acceptance.

5.6.1 Overall Protection of Human Health and the Environment

RAA 1, the no-action alternative, will not reduce or monitor potential risks or be protective of human health or the environment. RAA 2, would control exposure through Institutional Controls and monitoring and, thereby, ensure reliable protection over time. By itself, this alternative may not be adequately protective of human health and the environment. RAA 3 is expected to eliminate potential exposure to receptors and provide a high level of protection by permanently removing the contaminated shallow soil and removing VOCs from deep soil by using SVE. RAA 4 would remove the shallow soil contaminants associated with Pond 1 and provide a cover to control infiltration that could potentially leach residual soil contamination to the groundwater. RAA 5 will mitigate exposures to the Pond 1 contamination in addition to the actions described under RAA 3.

All the alternatives can achieve some level of protection of human health and the environment except RAA 1, the no action alternative.

5.6.2 Compliance with ARARs

RAAs 3 through 5 can be planned and implemented in ways that will meet all of the action-specific ARARs. These RAAs will meet the ARARs to an essentially equal degree and all meet ARARs to a substantially greater degree than either RAA 1 or RAA2 alone.

All the alternatives will meet the ARARs to some degree except RAA 1.

5.6.3 Long-Term Effectiveness and Permanence

RAA 1 will allow the greatest residual risk to remain on site because it involves no action. RAAs 2 through 5 all provide long-term effectiveness and permanence, although RAA 3 and 4 are arguably superior to all because they provide treatment and permanent removal of the onsite contamination, whereas the other alternatives do not. Treatment and removal provide permanent and effective long-term protection to human health and the environment for industrial land use. Any of these alternatives will meet this criterion much more effectively than RAA 1.

5.6.4 Reduction of Toxicity, Mobility, or Volume through Treatment

RAA 1 fails to attain any such reduction because the no-action alternative lacks containment, treatment, or other measures. RAA 2 will control but not reduce toxicity and mobility. RAA 3 and 4 will reduce volume, toxicity, and mobility. RAA 5 will control mobility.

5.6.5 Short-Term Effectiveness

Implementation of RAA 1 does not pose substantial risks to the community or construction workers because no remedial actions will be taken under this alternative. RAA 2 will not impact the neighboring community, workers, or the surrounding environment. RAA 3 involves typical construction activities that may pose short-term risks to worker health and safety. With RAA 4, no significant risks exist to the local community, with the exception of heavy truck traffic during transport of contaminated soil to the RCRA disposal facility. RAA 4 and RAA 5 will involve construction activities associated with backfilling Pond 1 and covering the backfill. This construction may pose short-term risks to worker health and safety. Implementation of RAAs 4 through 5 could pose additional risks to the community or construction workers because both alternatives involve similar construction activities. RAA 1 and 2 pose the least short-term risk to the community as these alternatives do not involve active remediation of the site.

5.6.6 Implementability

Consideration of RAA 1, the no-action alternative, is required by the NCP. This alternative is the easiest to implement because it involves no action. There is no equipment requirements associated with RAA 1. For the same reason, the alternative also requires no operations and maintenance activities. New, unproven, or problematic technologies are not an issue.

RAAs 2 through 5 are approximately equal in implementability because they involve only common site controls and remediation activities. The technologies involved are proven and mature. These alternatives require only conventional equipment and services that should be reliable and readily available.

5.6.7 Cost

Cost estimates completed within the FS (Shaw 2007) were developed following EPA guidance (EPA, 2000). The estimated net present-worth costs of the three alternatives are as follows:

Description	RAA 1 No Action	RAA 2 Institutional Controls & Groundwater Monitoring and Reporting	RAA 3 Soil Vapor Extraction & Shallow Soil Removal	RAA 4 Contaminated Soil Removal & Closure of Pond 1	RAA 5 Closure In Place and Post Closure Care and Monitoring of Pond 1
Total Project Duration (years)	0	30	5	5	30
Capital Costs	$0	$168,300	$1,133,700	$378,300	$342,200
Present Value O&M Cost	$0	$242,387	$431,897	$14,800	$219,685
Present Value Periodic Cost	$0	$76,780	$158,068	$0	$86,940
Total Present Value of Alternative	$0	$487,500	$1,723,700	$393,100	$648,800

In terms of net present worth, RAA 1 will be the least expensive remediation alternative to implement. In order of most to least expensive alternative is RAA 3, RAA 5, RAA 2, and RAA 4

5.6.8 State Acceptance

State agencies will not accept RAA 1 because it will not protect human health and the environment. Because RAA 2, institutional controls, does not mitigate or remove contamination from the site, this alternative will not meet the expectations of the state regulatory agencies. RAA 3, RAA 4, and RAA 5 are therefore the most acceptable from the State agencies' standpoint.

5.6.9 Community Acceptance

The community is unlikely to accept RAA 1 because it will leave the site unremediated, out of compliance with ARARs, and a source of health risks to local workers and the general public. Although RAA 2 provides some degree of benefit and protection from contamination to the community it does not prepare the property for future commercial use. RAAs 3 through 5 are therefore most desirable from the standpoint of community acceptance.

5.7 Identification of, and Rationale for, Proposed Alternative

All the alternatives are capable measures except RAA 1 which is omitted from further evaluation because it will not protect human health and the environment, is not acceptable according to the evaluation criteria, and does not satisfy the RAOs. After careful consideration, RAA 4 is preferred over RAA 5 for closure of Pond 1 because of time to complete and cost considerations. RAA 4 is also favorable in that it provides protection of groundwater by removal of the remaining soil contamination beneath Pond 1. RAA 4 will be coupled with RAA 2 and RAA 3 to meet the FS evaluation criteria, ARARs, and the RAOs. The proposed remedy includes:

- Deed restrictions and Land Use Covenants
- Extensive soil excavation and disposal
- SVE at the AST area and the Pond 1 area
- Pond 1 soil excavation and disposal and construction of a cover
- Additional groundwater monitoring well installation near City Well #10
- Groundwater monitoring

This remedy will:

1. <u>Eliminate or minimize direct human contact with COCs in surface soil media of concern.</u>
   Excavation and off-site disposal of surface and near-surface soil from the site, including the Pond 1 area will mitigate risks to human receptors at the site.

2. <u>Mitigate COCs in concentrations which are a threat to human health in particulates generated and dispersed from surface soils</u>
   Removal of this soil will reduce COC levels in site surface soils to acceptable concentrations. After completion of the remedial actions, the threat to human health from fugitive dust or particulate emissions will be minimized.

3. <u>Eliminate or minimize storm-water contact with the media of concern</u>
   Removal of surface soil and removal of soil and cover construction at Pond 1 will eliminate storm-water concerns.

4. <u>Eliminate or minimize the potential for uncontrolled migration soil vapor VOCs</u>
   The SVE system will mitigate deep soil VOC occurrences

5. Minimize the potential for future groundwater contamination
   The SVE system will remove the more leachable and mobile VOCs from the soil, thereby protecting the groundwater beneath the site from future contamination by VOCs.

6. Achieve compliance with State and Federal regulations
   The components of the selected remedy are considered to be those that best comply with ARARs. Therefore, the selected alternative complies with applicable State and Federal regulations.

7. Allow potential future reuse of the site.
   The selected alternative will explicitly allow and encourage commercial reuse of the site.

Groundwater monitoring is currently ongoing at the Site. Continued groundwater monitoring will provide an ongoing surveillance measure to evaluate potential groundwater impacts from the Site soils. Implementation of the monitoring program will continue prior to, during the remedial action activities, and may continue after the remedial action activities. Additionally, one groundwater monitoring well will be installed either in the southern portion of AOPC 3 or the western portion of AOPC 5 (Figure 5-2). This well will provide early detection monitoring of potential groundwater impacts from the Site to City Well #10. Location of this well will be finalized during the remedial design. Monitoring of this well will also be incorporated into the existing groundwater monitoring program.

An O&M agreement will be developed subsequent to the soil removal actions at the Site as administrative control. The agreement will address continued groundwater monitoring, Site security and access, and long-term operation of the soil vapor extraction and treatment systems, if necessary (i.e., significant rebounding of soil vapor concentrations occurs). The requirement for five year review evaluations of implemented remedy can also be addressed at that time, where evaluation of groundwater impacts to City Well #10 could also be included. A realistic O&M agreement can be developed following the completion of Site remedial actions described in this RAP.

A draft project schedule for implementation of remedial actions at the Site is provided in Appendix E.

This remedial alternative protects human health and the environment, conforms to the ARARs, and fulfills all of the RAOs. Therefore, RAA 4, coupled with components of RAAs 2 and 3 are proposed as the remedial alternative for the Brown and Bryant, Shafter facility.

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Figures

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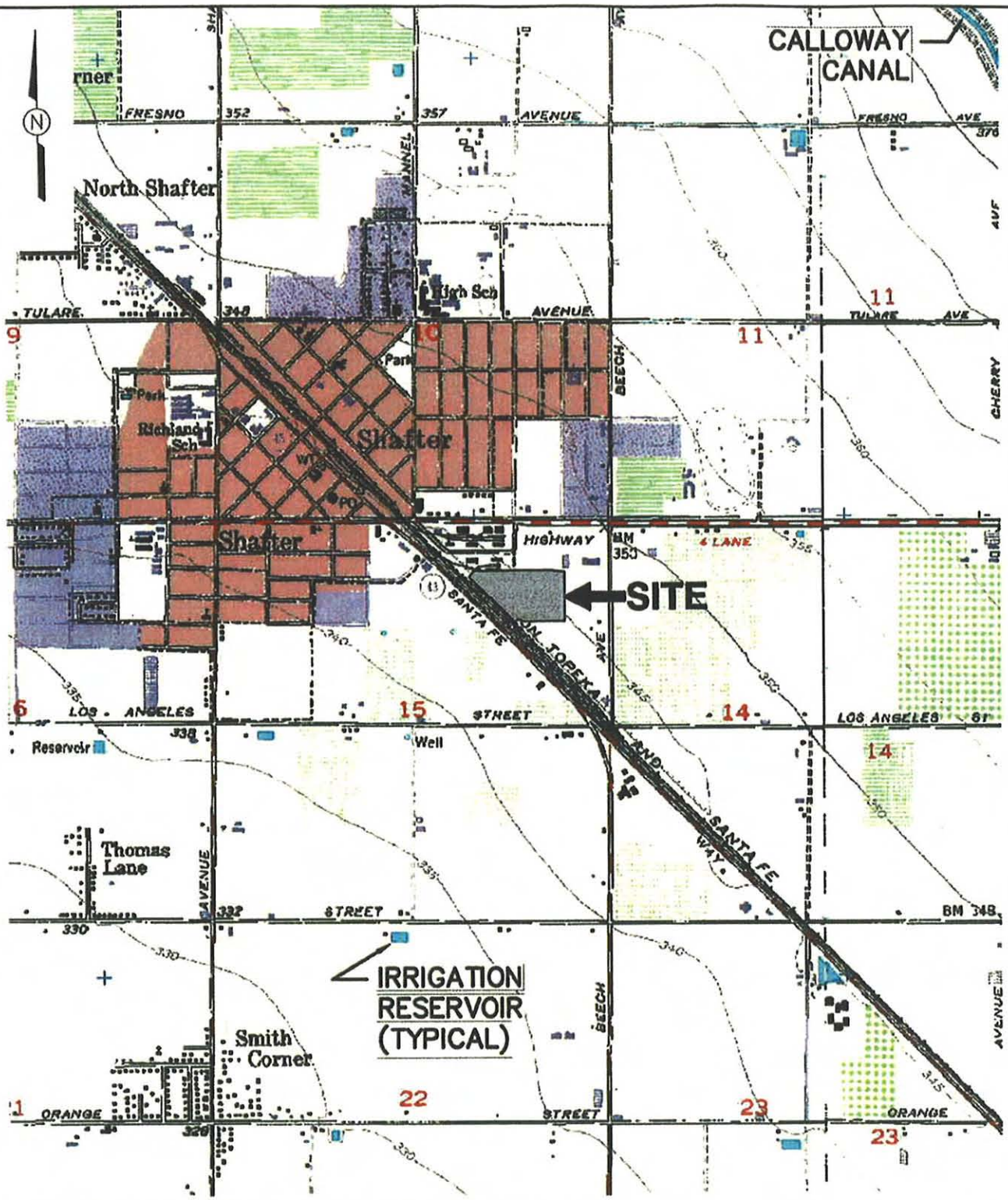

REFERENCE: USGS 7.5' RIO BRAVO AND WASCO QUADRANGLES.

0 1/2 1 Mile

0 2000 Feet

SCALE

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135 COMMERCIAL DRIVE
SHAFTER, CALIFORNIA

FIGURE 1-1
SITE LOCATION MAP

DESIGNED BY	JB	02/09/07	CHECKED BY	GS	02/09/07
DRAWN BY	DLB	02/09/07	APPROVED BY	MM	02/09/07
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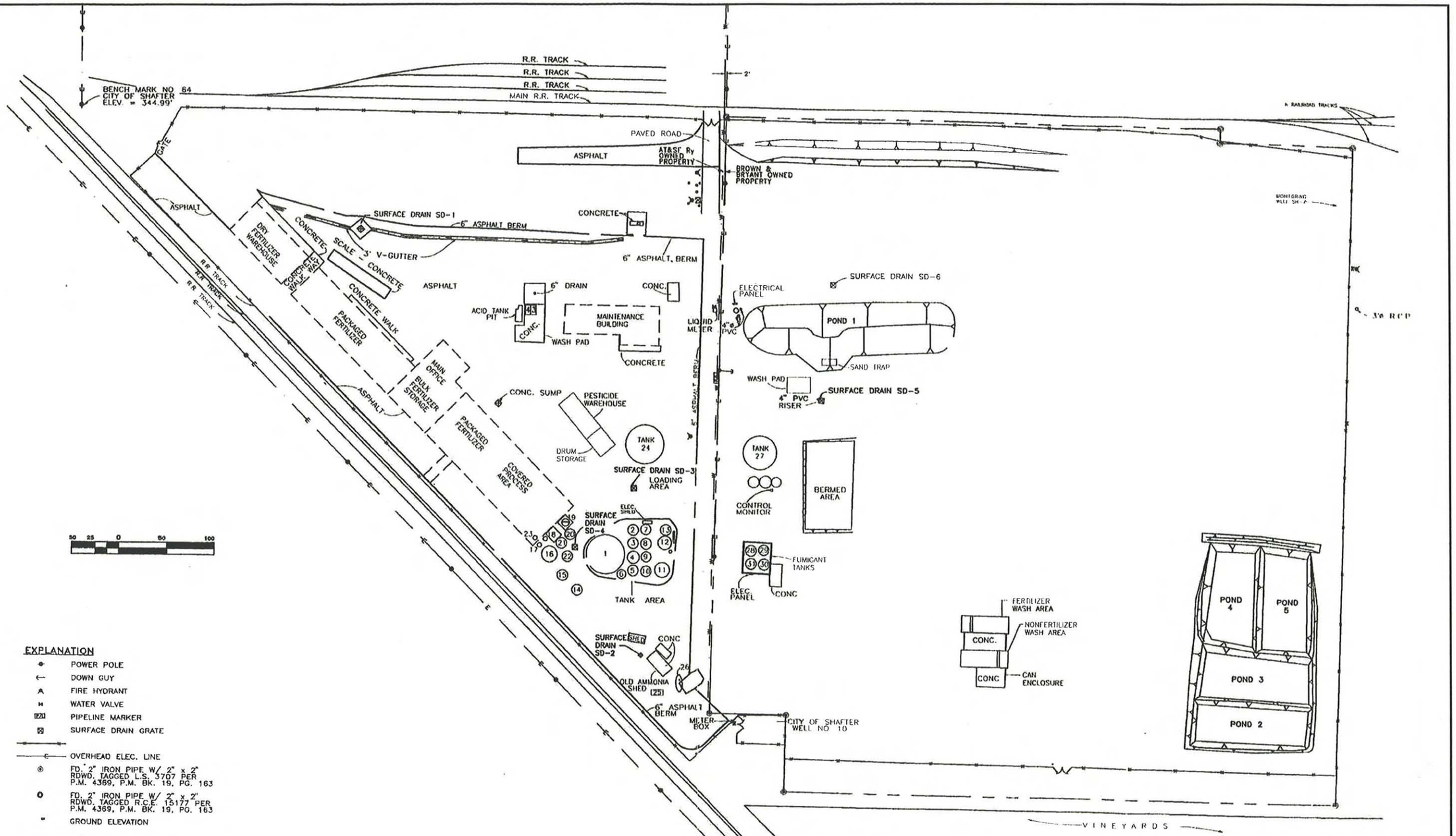
DLB	JB	MM	122497



EXPLANATION

- POWER POLE
- DOWN GUY
- FIRE HYDRANT
- WATER VALVE
- PIPELINE MARKER
- SURFACE DRAIN GRATE
- OVERHEAD ELEC. LINE
- FD. 2" IRON PIPE W/ 2" x 2" RDWD. TAGGED L.S. 3707 PER P.M. 4369, P.M. BK. 19, PG. 163
- FD. 2" IRON PIPE W/ 2" x 2" RDWD. TAGGED R.C.E. 15177 PER P.M. 4369, P.M. BK. 19, PG. 163
- GROUND ELEVATION
- 12" ASBESTOS WATERLINE

MAP REPRODUCED FROM DRAFT KENNEDY/JENKS FIGURE 18 (JOB 912314.21); SAMPLE LOCATIONS TAKEN FROM CANONIE ENVIRONMENTAL, 1987 FIGURE 1 (DRAWING 80-037-F30).

BASIS OF BEARINGS:

THE GRID BEARING OF N. 1°20'28" E. SHOWN FOR THE EAST LINE OF SECTION 15, T.28S, R.25E.,M.D.M. ON K.C.S. FILED MAP NO. 7-1 BOOK 7, PAGE 74 IN THE OFFICE OF THE KERN COUNTY SURVEYOR WAS USED AS THE BASIS OF BEARINGS SHOWN HEREON.

BENCH MARK:

RAILROAD SPIKE IN POWER POLE AT NORTHWEST CORNER OF SITE AS SHOWN HEREON. ELEVATION = 344.99' (CITY OF SHAFTER DATUM)

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SHAFTER, CALIFORNIA

FIGURE 1-2
SITE FEATURE MAP

DESIGNED BY	JB	02/09/07	CHECKED BY	GS	02/09/07
DRAWN BY	DLB	02/09/07	APPROVED BY	MM	02/09/07
SCALE: 1" = 100'	DRAWING NO. 122497_FIG1-2.DWG		PLATE		REVISION NO. 0

SOURCE: CANONIE ENVIRONMENTAL, 1988 CLOSURE PLAN
AERIAL: GOOGLE EARTH PRO, 2007

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SHAFTER, CALIFORNIA

FIGURE 1-3
SITE FEATURE MAP
WITH AERIAL OVERLAY

DESIGNED BY	JB	Date	CHECKED BY	GS	Date
DRAWN BY	Clay	26SEP07	APPROVED BY	MM	Date
SCALE: 1" = 100'	DRAWING NO. 122497_PD_FIG1-3.dgn		PLATE		REVISION NO. 0

STARTING DATE: 26SEP07 | INITIATOR: J.BRIEGAL | TECH. REVIEW: Name | DWG. NO.: 122497_PD_FIG1-3.dgn
DRAWN BY: C.E.TUMLIN | CADD REVIEW: Name | PROJ. MGR.: Name | PROJ. NO.: 122497

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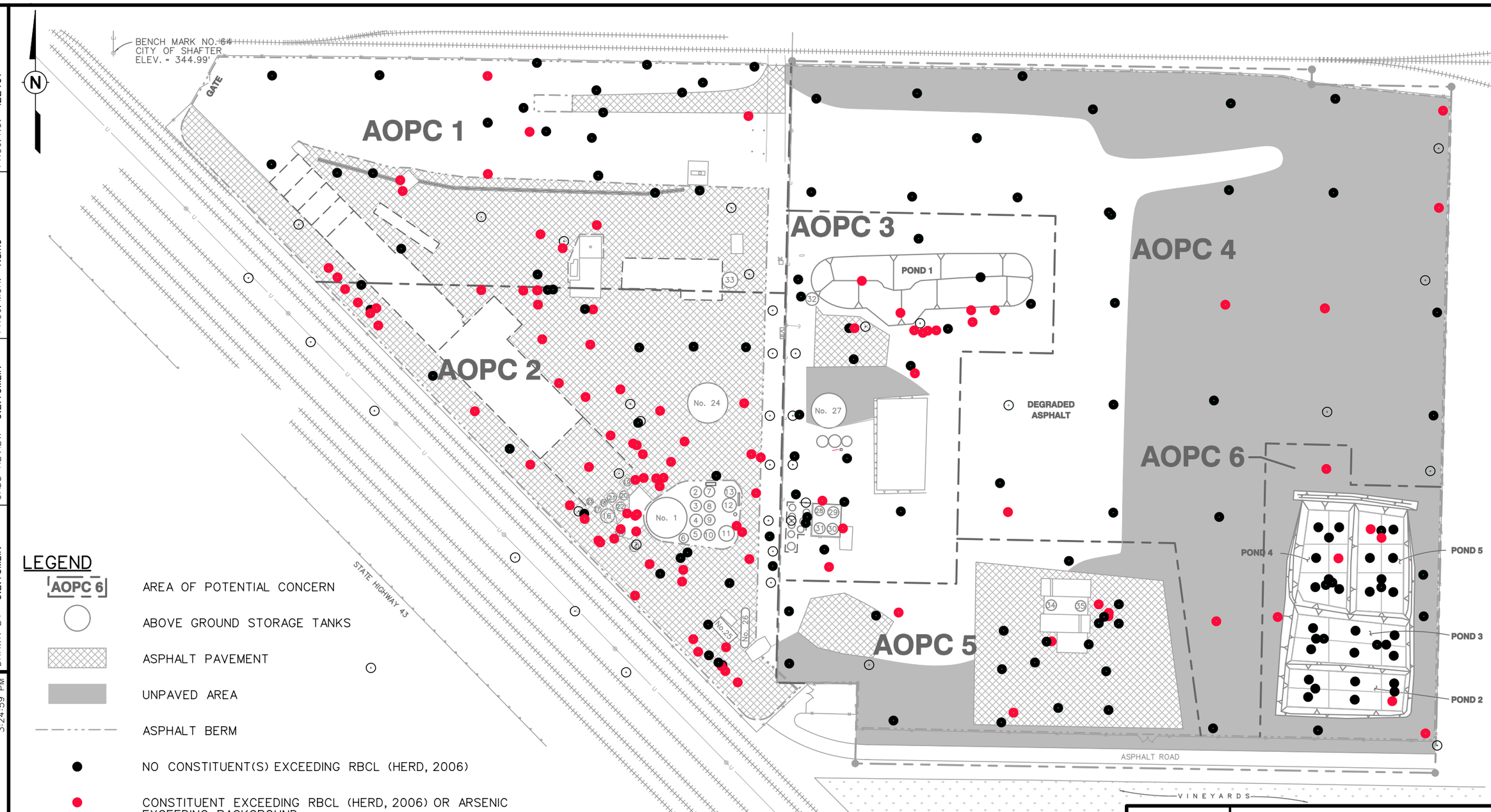

LEGEND

- AOPC 6 — AREA OF POTENTIAL CONCERN
- ABOVE GROUND STORAGE TANKS
- ASPHALT PAVEMENT
- UNPAVED AREA
- ASPHALT BERM
- NO CONSTITUENT(S) EXCEEDING RBCL (HERD, 2006)
- CONSTITUENT EXCEEDING RBCL (HERD, 2006) OR ARSENIC EXCEEDING BACKGROUND.
- LOCATION WITH NO CHEMICAL DATA OR SOIL GAS LOCATION

NOTES

1. REMEDIATION AREAS (CELLS) ARE DESCRIBED IN TABLE 5-2 OF THE REMEDIAL ACTION PLAN (SHAW, 2007)

SOURCE: CANONIE ENVIRONMENTAL, 1988 CLOSURE PLAN

SCALE
0 100 200 FEET

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135 COMMERCIAL DRIVE
SHAFTER, CALIFORNIA

FIGURE 1-4
SURFACE AND SUB-SURFACE SOIL SAMPLE LOCATIONS CONTAINING CONSTITUENTS OF CONCERN EXCEEDING RISK-BASED SCREENING LEVELS

DESIGNED BY	JB	Date	CHECKED BY	GS	Date
DRAWN BY	Clay	24SEP07	APPROVED BY	MM	Date
SCALE: 1" = 100'	DRAWING NO. 122497_PD_FIG1-4.dgn		PLATE		REVISION NO. 0

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PROJ. NO.: 122497
TECH. REVIEW: Name
PROJ. MGR.: Name
INITIATOR: J.BRIEGAL
CADD REVIEW: C.E.TUMLIN
STARTING DATE: 24SEP07
DRAWN BY: C.E.TUMLIN

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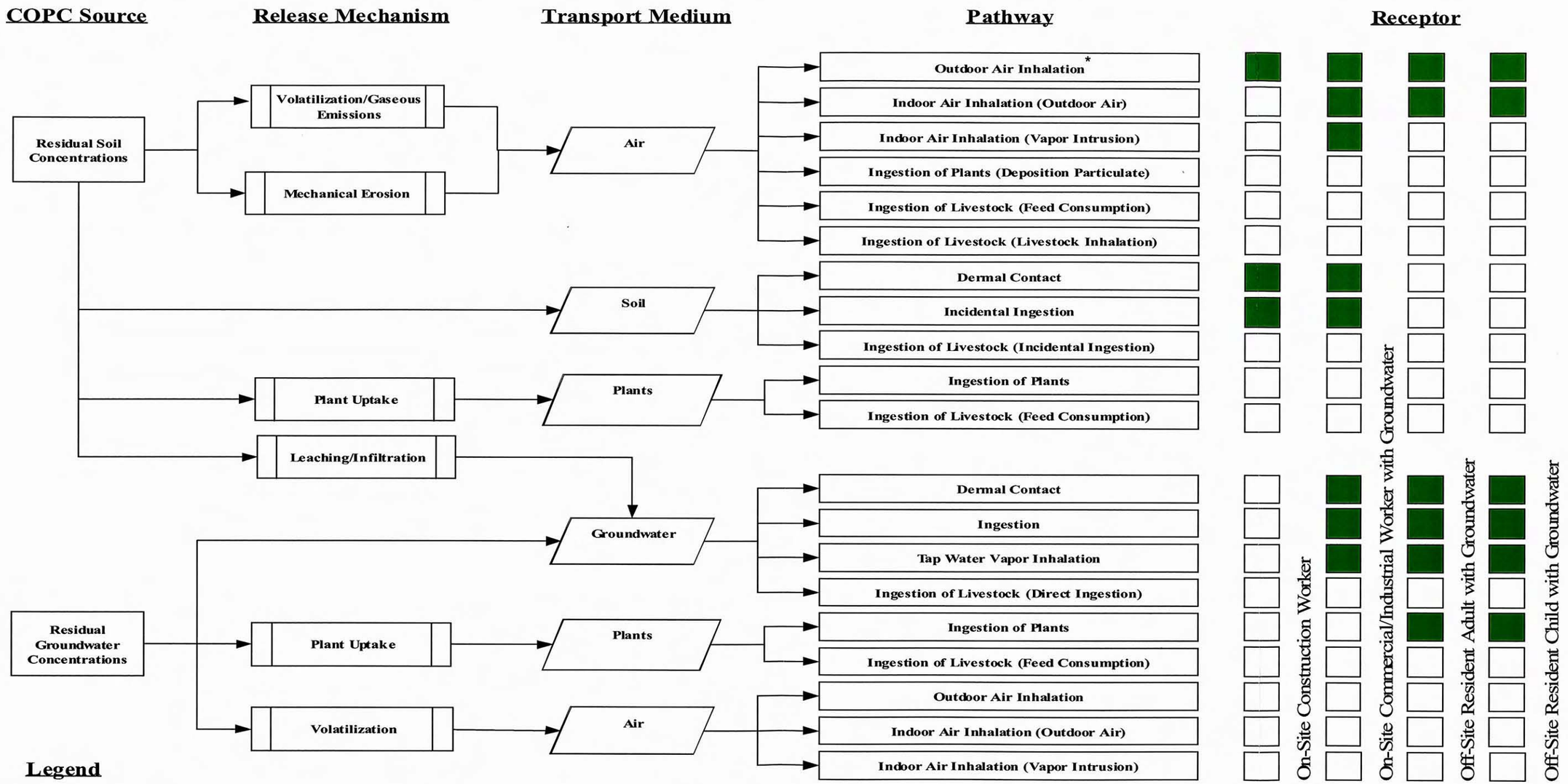


Legend

- Complete Exposure Pathway

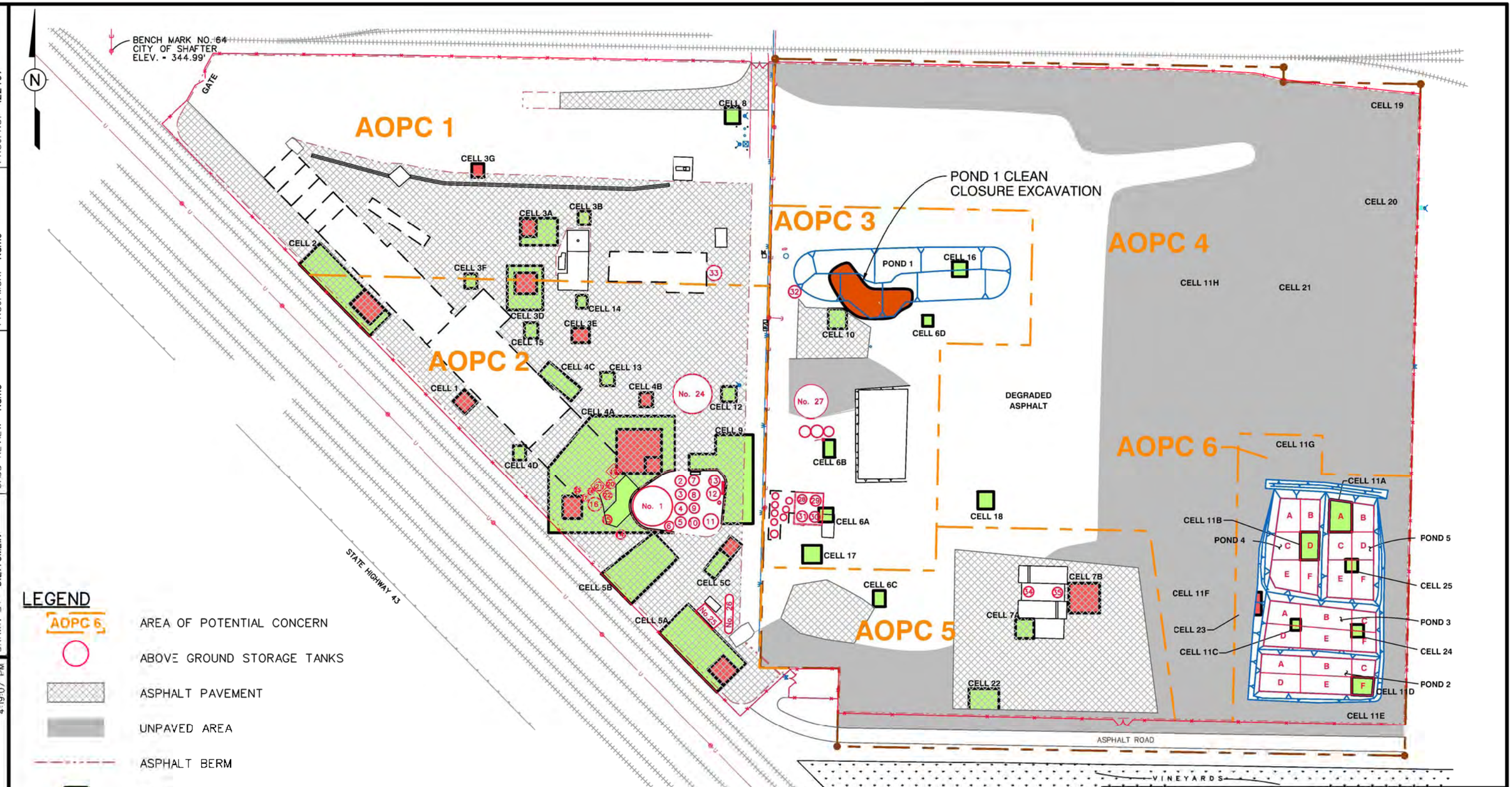
- Incomplete Exposure Pathway

Livestock includes meat, milk, and eggs

Plants include vegetables, fruit, and grains

* Pathway includes inhalation of particulates, and inhalation of vapor

PLATE 4-1
CONCEPTUAL EXPOSURE MODEL
BROWN & BRYANT SHAFTER SITE
SHAFTER, CA



LEGEND

AOPC 6	AREA OF POTENTIAL CONCERN
	ABOVE GROUND STORAGE TANKS
	ASPHALT PAVEMENT
	UNPAVED AREA
	ASPHALT BERM
	EXCAVATION TO 2 FEET BELOW GROUND SURFACE
	EXCAVATION TO 3-6 FEET BELOW GROUND SURFACE

NOTES

1. REMEDIATION AREAS (CELLS) ARE DESCRIBED IN TABLE 5-2 OF THE REMEDIAL ACTION PLAN (SHAW, 2007)

SOURCE: CANONIE ENVIRONMENTAL, 1988 CLOSURE PLAN

SCALE
0 100 200 FEET

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SHAFTER, CALIFORNIA

FIGURE 5-1
AREAS PROPOSED FOR REMEDIATIONOF SURFACE AND NEAR-SURFACE SOILS

DESIGNED BY	JB	Date	CHECKED BY	GS	Date
DRAWN BY	Clay	24SEP07	APPROVED BY	MM	Date

SCALE:	DRAWING NO.	PLATE	REVISION NO.
1" = 100'	122497_PD_FIG5-1.dgn		0

DWG. NO.: 122497_PD_FIG5-1.dgn
PROJ. NO.: 122497
TECH. REVIEW: Name
PROJ. MGR.: Name
INITIATOR: J.BRIEGAL
CADD REVIEW: Name
STARTING DATE: 20SEP07
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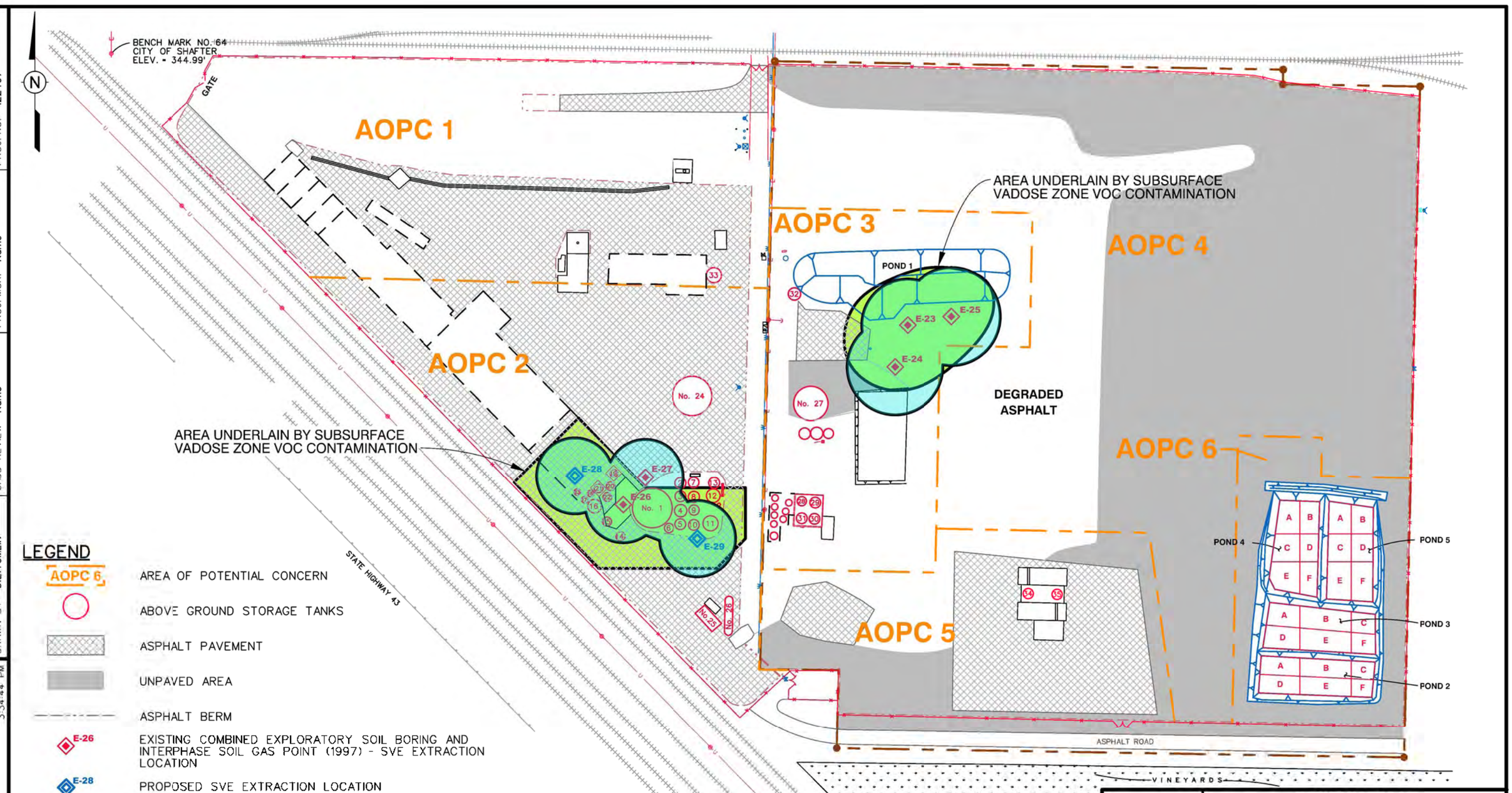

LEGEND

AOPC 6	AREA OF POTENTIAL CONCERN
	ABOVE GROUND STORAGE TANKS
	ASPHALT PAVEMENT
	UNPAVED AREA
	ASPHALT BERM
E-26	EXISTING COMBINED EXPLORATORY SOIL BORING AND INTERPHASE SOIL GAS POINT (1997) - SVE EXTRACTION LOCATION
E-28	PROPOSED SVE EXTRACTION LOCATION
	ESTIMATED EXTENT OF PROPOSED SYSTEM
	DEGRADED ASPHALT

SCALE
0 100 200 FEET

SOURCE: CANONIE ENVIRONMENTAL, 1988 CLOSURE PLAN

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SHAFTER, CALIFORNIA

FIGURE 5-2
SUB-SURFACE SOIL AREAS
PROPOSED FOR VAPOR EXTRACTION

DESIGNED BY	JB	Date	CHECKED BY	GS	Date
DRAWN BY	Clay	24SEP07	APPROVED BY	MM	Date
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PROJ. NO.: 122497
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PROJ. MGR.: Name
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CADD REVIEW: Name
STARTING DATE: 24SEP07
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Tables

Table 1-1

Chemicals or Their By-Products Known to be Used On Site

Chemical	Used or By-Products Known on Site	Stored in Bulk On Site
Acrolein	X	---
Acrylonitrile	X	---
Aldrin	X	---
Ammonia	X	X
Benefin (Balan)	X	---
Benzeneacetic Acid (Phenylacetic Acid)	X	---
Alpha BHC	X	---
Gamma BHC (Lindane)	X	---
Beta BHC	X	---
Delta BHC	X	---
Captan	X	---
Technical Chlordane	X	---
Chlorobenzene	X	---
DBCP	X	---
p,p'-DDD	X	---
p,p'-DDE	X	---
p,p'-DDT	X	---
DEF	X	---
Demeton-o	X	---
Demeton-s	X	---
1,1-Dichloroethane	X	---
1,2-Dichloroethane	X	---
1,2-Dichloropropane	X	---
1,3-Dichloropropene	X	---
1,3-Dichloropropane	X	---
Diazinon	X	---
Dibromochloropropane	X	---
cis-1,3-Dichloropropene	X	---
Dieldrin	X	---
Diesel	X	X
Dimethoate (Cygon)	X	---
2,4-Dinitrophenol	X	---
trans-1,3-dichloropropene	X	---
Disulfoton (Disyston)	X	---
DNBP (Dinoseb)	X	X
Endosulfan I	X	---
Endosulfan II	X	---
Endosulfan Sulfate	X	---
Endrin	X	---
Endrin Aldehyde	X	---
ETDB (EDB)	X	X
Ethion	X	---
Ethylbenzene	X	---
Guthion	X	---
Heptachlor	X	---
Heptachlor Expoxide	X	---
Kelthane	X	---
Malathion	X	---
Methiocarb	X	---
Methomyl	X	---
Methylene Chloride	X	---

Table 1-1

Chemicals or Their By-Products Known to be Used On Site

Chemical	Used or By-Products Known on Site	Stored in Bulk On Site
Methoxyclor	X	---
Methyl Trithion	X	---
Orthene	X	---
Ethyl Parathion	X	---
Methyl Parathion	X	---
PCB	X	---
PCNB	X	---
Perthane	X	---
Phorate (Thimet)	X	---
Priority volatiles	X	---
Prowl	X	---
1,1,2,2-Tetrachloroethane	X	---
Temik	X	---
Toluene	X	---
Toxaphene	X	X
Trichlorofluoromethane	X	---
1,2,3-Trichloropropane	X	---
Xylene	X	X
Calcium	X	---
Magnesium	X	---
Sodium	X	---
Potassium	X	---
Chloride	X	---
Sulfate	X	---
Bicarbonate	X	---
Nitrate	X	---
Arsenic	X	---
Cadmium	X	---
Chromium (Total)	X	---
Copper	X	---
Lead	X	---
Manganese	X	---
Nickel	X	---
Zinc	X	X

From: Canonie, 1988 and EHD, 2006

Table 1-2

Contaminant Summary for Soils, Soil Gas and Groundwater
Former Brown and Bryant Facility, Shafter, California

Chemical	Frequency of Detection	Maximum Soil Concentration (mg/kg)
Surface and Construction Zone Soils (0-11' bgs)		
2,4-dinitrophenol	1 / 178	5
trichlorofluoromethane	1 / 208	0.13
ethylbenzene	1 / 208	0.006
benzene	1 / 231	1.3
polychlorinated biphenyls	1 / 242	0.34
cis-1,3-dichloropropene	1 / 293	0.2
2,4-DB 4(2,4-dichloropehnoxy)butyric acid	1 / 41	0.035
acetone	1 / 42	0.077
dicamba	1 / 55	0.0098
tetrachloroethene	1 / 72	0.010
1,1-dichloroethene	1 / 93	0.4
1,2-dichloropropane	19 / 238	31
DEF (merfphos oxide)	2 / 184	0.5
prowl (Pendimethalin)	2 / 189	16
1,2-dichloroethane	2 / 195	0.6
prometryn	2 / 20	0.63
pentachlorophenol	2 / 22	0.035
gamma-bhc (Lindane)	2 / 223	2
1,1,1-trichloroethane	2 / 72	0.007
1,2,3-trichloropropane	22 / 233	6
toluene	23 / 244	1.6
1,2-dibromoethane (ethlyene dibromide)	23 / 310	36
4,4-DDD	24 / 309	37
arsenic	263 / 522	110
chlorobenzene	3 / 217	1.3
benefin	3 / 249	48
dieldrin	4 / 222	0.15
methylene chloride	4 / 229	0.78
endrin aldehyde	4 / 243	10
xylenes	4 / 263	0.13
aldicarb	5 / 247	33
dinoseb	56 / 306	290
pentachloronitrobenzene	6 / 177	76
pentachloronitrobenzene	6 / 177	76
1,3-dichloropropane	6 / 222	3
endrin	6 / 243	25
endosulfan	6 / 422	8.7
4,4-DDE	74 / 316	170
4,4-DDT	74 / 334	230
4,4-DDT	74 / 334	230
toxaphene	76 / 384	1500
1,2-dibromo-3-chloropropane (DBCP)	8 / 339	6
chlordane	9 / 249	5.3
kelthane	9/177	240

Table 1-2

Contaminant Summary for Soils, Soil Gas and Groundwater
Former Brown and Bryant Facility, Shafter, California

Chemical	Frequency of Detection	Maximum Soil Concentration (mg/kg)
Vadose Zone Soils (>11' bgs)		
Dinoseb	3 / 64	1.05
Silvex (2,4,5-TP)	1 / 50	0.01
Manganese	17 / 17	430
Arsenic	24 / 24	17
Copper	16 / 19	19
Zinc	19 / 19	89
4,4'-DDT	6 / 20	0.08
Dieldrin	1 / 67	0.0157
Endrin	2 / 67	0.232
4,4'-DDD	1 / 71	0.03
4,4'-DDE	1 / 71	0.06
Endosulfan 1	1 / 134	0.0089
TPHD	2 / 2	2600
TPHG	2 / 3	2400
Ethylbenzene	5 / 285	9.7
Ethylene Dibromide	63 / 395	4.5
1,2-Dichloroethane	10 / 281	0.16
Toluene	7 / 336	4.7
Xylenes	30 / 336	200
1,3-Dichloropropane	47 / 324	0.2
Acetone	2 / 197	0.057
Benzene	1 / 338	0.01
1,1,1-trichloroethane	5 / 281	0.005
Methylene chloride	12 / 281	0.069
1,1-Dichloroethane	10 / 281	0.16
1,2-Dichloropropane	160 / 385	7
2-Butanone	3 / 197	0.028
1,1,2-trichloroethane	6 / 280	0.065
1,2-Dibromo-3-chloropropane	56 / 394	0.720
1,2,3-Trichloropropane	113 / 319	0.65
Nitrate	42 / 42	3500
Ammonia	3 / 6	712

Table 1-2

Contaminant Summary for Soils, Soil Gas and Groundwater
Former Brown and Bryant Facility, Shafter, California

Soil Gas	Frequency of Detection	Maximum Concentration (mg/m^3)
Dibromochloropropane	32/56	7.7
1,2 - Dichloroethane	1/56	2.9
Ethylene Dibromide	23/56	50
Dichloromethane	8/56	24
Toluene	9/56	200
o-Xylenes	17/56	670
m,p-Xylenes	24/56	6800
1,1 - Dichloroethene	1/56	4.6
Ethylbenzene	14/56	710
1,2,3 - Trichloropropane	32/89	56
Chloroform	1/56	2.9
1,1,2 - Trichloroethane	9/56	49
Tetrachloroethene	1/56	1.2
1,1,1,2 - Tetrachloroethane	4/56	3.2
1,2 - Dichloropropane	72/90	4600
1,3 - Dichloropropane	23/56	50
Carbon tetrachloride	3/3	8.68 ppbv
1,2,4-Trimethylbenzene	4/4	378 ppbv
1,3,5-Trimethylbenzene	4/4	238 ppbv

Groundwater	Frequency of Detection	Maximum Concentration (mg/L)
Dinoseb	6/36	0.00015
1,2 - Dichloropropane	6/6	0.00077
DBCP	36/36	0.0013
EDB	4/33	0.000034
1,2,3 - Trichloropropane	6/10	0.00067
Orthophosphate	6/9	0.26
Nitrate (as NO3)	18/19	86
Nitrate (as N)	9/10	19
Arsenic	4/19	4.4
Cadmium	5/10	0.03
Calcium	9/10	240
Chloride	8/10	167
Copper	1/10	0.04
Magnesium	8/10	12
Manganese	1/10	0.022
Potassium	8/10	3
Sodium	8/10	140
Sulfate	8/10	650
Zinc	2/10	0.12

Table 4-1
Summary of Supplemental Risk Assessment Findings
Former Brown and Bryant Facility, Shafter, California

AOPC	Findings	Exposure Pathway	Risk-Drivers
1	Construction / Maintenance Worker - Within Acceptable Limits	Not Applicable	Not Applicable
	Commercial / Industrial Worker - Unacceptable	Incidental Ingestion / Dermal Contact	Toxaphene
2	**Construction / Maintenance Worker - Unacceptable**	Inhalation/Incidental Ingestion / Dermal Contact	1,2,3-Trichloropropane, Dieldrin and PCBs (a)
	Commercial / Industrial Worker - Unacceptable	Inhalation/Incidental Ingestion / Dermal Contact	1,2,3-Trichloropropane, Toxaphene, dieldrin, arsenic, 4,4-DDT, and chlordane (a)
3	**Construction / Maintenance Worker - Unacceptable**	Inhalation/Incidental Ingestion / Dermal Contact	1,2,3-Trichloropropane, EDB and 1,2-DCP
	Commercial / Industrial Worker - Unacceptable	Indoor Vapor Inhalation	1,2,3-Trichloropropane, EDB and 1,2-DCP
4	Construction / Maintenance Worker - Within Acceptable Limits	Not Applicable	Not Applicable
	Commercial / Industrial Worker - Unacceptable	Incidental Ingestion / Dermal Contact	Arsenic
5	Construction / Maintenance Worker - Within Acceptable Limits	Not Applicable	Not Applicable
	Commercial / Industrial Worker - Unacceptable	Incidental Ingestion / Dermal Contact	Arsenic and 4,4,-DDE
6	**Construction / Maintenance Worker - Unacceptable**	Inhalation	DBCP (a)
	Commercial / Industrial Worker - Unacceptable	Indoor Vapor Inhalation; Incidental Ingestion and Dermal Contact	Dieldrin, DBCP, PCBs (a)
Off-site	**Off-Site Residents - Unacceptable**	Inhalation of Ambient Air / Particulates	Toxaphene, arsenic, dieldrin, EDB, 1,2-DCP, manganese (b)

(a) One or all of the chemicals identified as risk-drivers were non-detect due to elevated detection limits for the non-detects in the data set
(b) Manganese in AOPC 6 is less than background concentrations
Unacceptable risk - Cancer risk exceeds the 1 x 10-5 point of departure or the Hazard Index exceeds 1
Within Acceptable Limits - Cancer or Non-cancer risk is below 1 x 10-5 point of departure or below a Hazard Index of 1

Table 4-2a Final Soil Risk Based Cleanup Goals (RBCGs)

Compound	Maximum Concentration or Detection Limit[a] (mg/kg)		FINAL CUMULATIVE (mg/kg)	
	Detected	DL for NDs	RBCGs	Basis
1,1,1,2-tetrachloroethane	NR		4.4E-01	Industrial C
1,1,1-trichloroethane	0.007	1	4.4E+01	Construction NC
1,1,2,2-tetrachloroethane	NR		1.3E-01	Industrial C
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NR		1.1E+03	Construction NC
1,1,2-trichloroethane	0.065	1	2.1E-01	Industrial C
1,1-dichloroethane	0.16	1	7.8E-01	Industrial C
1,1-dichloroethene	0.4	1	2.6E+00	Construction NC
1,2,3-trichloropropane	6	0.0625	6.6E-03	Industrial C
1,2-dibromo-3-chloropropane (DBCP)	6	50	1.1E-02	Industrial C
1,2-dibromoethane (EDB)	36	0.625	5.1E-02	Industrial C
1,2-dichloroethane	0.6	1	9.2E-02	Industrial C
1,2-dichloropropane	31	0.625	1.2E-01	Construction NC
1,3-dichloropropane	3	0.625	2.0E-01	Industrial C
2,4,5-TP (Silvex)	0.0098	01	2.0E+01	Construction NC
2.4-DB	0.035	1	2.0E+01	Construction NC
2,4-dinitrophenol	5	20	4.9E+00	Construction NC
2-butanone	0.028	0.8	1.5E+03	Construction NC
4,4-DDD	37	70	1.7E+00	Construction NC
4,4-DDE	170	50	1.7E+00	Construction NC
4,4-DDT	460	50	1.7E+00	Construction NC
acetone	0.077	5	2.3E+01	Construction NC
aldicarb	33	50	2.5E+00	Construction NC
benefin	48	50	7.4E+02	Construction NC
benzene	1.3	3	5.2E-02	Industrial C
carbon disulfide	0.014	0.4	8.7E+00	Construction NC
chlordane	5.3	100	5.6E-01	Industrial C
chlorobenzene	1.3	1	3.4E+00	Construction NC
chloroform	NR		2.6E-01	Industrial C
cis-1,3-dichloropropene	0.2	1	6.4E-02	Industrial C
DEF (merphos oxide)	0.5	0.5	3.9E-02	Construction NC
dicamba	0.0098	0.1	7.4E+01	Construction NC
dieldrin	0.15	50	4.6E-02	Industrial C
dinoseb	290	20	2.5E+00	Construction NC
endosulfan	8.7	50	2.1E+01	Construction NC
endrin	50	50	1.0E+00	Construction NC
endrin aldehyde	10	50	7.4E-01	Construction NC
ethylbenzene	9.7	1	7.4E+01	Construction NC
fluoride	NR		1.5E+02	Construction NC
gamma-bhc (lindane)	2	50	6.6E-01	Industrial C
kelthane (dicofol)	240	100	1.0E+00	Construction NC
methylene chloride	0.78	1	1.1E+00	Industrial C
pentachloronitrobenzene	76	50	7.4E+00	Construction NC
pentachlorophenol	0.035	0.35	3.7E+00	Industrial C
polychlorinated biphenyls	ND	100	8.4E-02	Industrial C
prometryn	0.63	1	9.8E+00	Construction NC
prowl	16	100	9.8E+1	Construction NC
tetrachloroethene	0.01	1	2.0E-01	Industrial C
toluene	4.7	1	1.1E+01	Construction NC
toxaphene	1500	10	6.1E-01	Industrial C
trichloroethene	NR		7.1E-01	Industrial C
trichlorofluoromethane	0.13	1.2	1.2E+01	Construction NC

Compound	Maximum Concentration or Detection Limit[a] (mg/kg)		FINAL CUMULATIVE (mg/kg)	
	Detected	DL for NDs	RBCGs	Basis
vinyl chloride	NR		7.3E-03	Industrial C
xylenes	200	10	3.6E+01	Construction NC

RBCGs = Risk-Based Cleanup Goals
$RBCG_{NC}$ = Risk-Based Cleanup Goal based on non-carcinogenicity
$RBCG_{C}$ = Risk-Based Cleanup Goal based on carcinogenicity
ND = Not Detected
DL = Detection Limit
NR = No soil data reported; detected in soil gas (except fluoride detected in ground water)
Exceeds soil RBCG, EPCs > soil RBCG except 1,2-DCA, 2,4-dinitrophenol, PBCs, Prowl, and xylenes.
[a]Soil data from Supplemental Risk Assessment electronic data set (EHD, 2005)

Table 4-2b. Final Risk-Based Cleanup Goals for Soil Gas

Total Risk – $1x10^{-6}$ Total Hazard Index = 1.0

Chemical	Basis	Soil Gas RBCGs		Maximum Detected Concentration	
		ug/L	ppmV	ug/L	ppmV
1,1,1-Trichloroethane (1,1,1-TCA)	H	2.00+02	37		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113	H	5.80+03	760	2.3	0.3
1,1-Dichloroethylene (1,1-DCE)	H	1.30E+01	3.3	4.6	
1,1,1,2-Tetrachloroethane	R	5.60E-01	0.082	3.2	0.45
1,1,2,2-Tetrachloroethane	R	7.10E-02	0.01	65	9.5
1,1,2-Trichloroethane (1,1,2-TCA)	R	2.40E-01	0.044	49	9
1,1-Dichloroethane (1,1-DCA)	R	2.50E+00	0.62	1.1	
1,2,3-Trichloropropane (TCP)	R	7.60E-03	0.0013	56	9.3
1,2-Dibromo-3-chloropropane (DBCP)	R	5.90E-03	0.00061	8	0.83
1,2-Dibromoethane (ethylene dibromide) (EDB)	R	1.60E-01	0.021	570	74
1,2-Dichloroethane (1,2-DCA)	R	1.50E-01	0.037	40	10
1,2-Dichloropropane (1,2-DCP)	R	3.90E-01	0.084	4600	1000
1,3-Dichloropropane	R	3.70E-01	0.08	50	11
1,3-Dichloropropene	R	2.90E-01	0.064		
Acetone	H	4.90E+01	21		
Benzene	R	1.20E-01	0.038	0.7	0.22
Carbon disulfide	H	1.20E+02	39		
Chlorobenzene	H	2.10E+02	46		
Chloroform	R	5.90E-01	0.12	3	0.61
Ethylbenzene	H	2.00E+02	46	710	
Methylene chloride	R	3.20E+00	0.92	12	3.5
m-Xylene	H	2.20E+01	5.1		
o-Xylene	H	1.80E+01	4.2	670	150
p-Xylene	H	2.00E+01	4.6	6800[a]	1600
Tetrachloroethylene (PCE)	R	7.10E-01	0.1	1.2	0.18
Toluene	H	5.40E+01	14	2.05	54
Trichloroethylene (TCE)	R	1.90E+00	0.35	0.9	
Trichlorofluoromethane (Freon 11)	H	1.30E+02	23		
Vinyl chloride (chloroethene)	R	4.00E-02	0.016	0.8	0.31
Carbon tetrachloride	R	8.70E-02	0.014		0.0087
1,2,4-Trimethylbenzene	H	1.30E+00	0.27		0.38
1,3,5-Trimethylbenzene	H	1.30E+00	0.27		0.24

[b]Data reported as m+p Xylenes

Bolded chemicals indicated newly added chemicals based on data in FS

Exceeds soil gas RBCG

Table 4-2c. Final Risk-Based Cleanup Goals for Metals

Metal	Carcinogen?	Soil RBCG (equivalent to background)
		mg/kg
Arsenic	Yes	9.4
Barium	No	1,000
Cadmium	Yes	1
Cobalt	No	15
Chromium	Yes	100
Copper	No	2300
Lead	No	20
Manganese	No	435
Nickel	No	50
Vanadium	No	300
Zinc	No	81.1

Table 4-3
Chemicals of Interest Used to Develop Remedial Volume Estimates for Soil
Former Brown and Bryant Facility, Shafter, California

Carcinogens Used to Develop Soil Remediation Volumes		
Analyte	**Rationale**	**Risk-based Cleanup Goal (RBCG), mg/kg**
toxaphene	Toxaphene was identified in the SRA as a risk driver for on-site and off-site exposure scenarios; toxaphene, arsenic, EDP, DBCP, 1,2,3-TCP, chlordane, and dieldrin comprise 99.9% of the C x T risk evaluation	0.61
arsenic	Arsenic was identified in the SRA as a risk driver for on-site exposure scenarios; toxaphene, arsenic, EDP, DBCP, 1,2,3-TCP, chlordane, and dieldrin comprise 99.9% of the C x T risk evaluation	9.40
1,2-dibromoethane (ethlyene dibromide)	Ethylene dibromide was identified in the SRA as a risk driver for on-site and off-site exposure scenarios; toxaphene, arsenic, EDP, DBCP, 1,2,3-TCP, chlordane, and dieldrin comprise 99.9% of the C x T risk evaluation	0.051
1,2-dibromo-3-chloropropane (DBCP)	DBCP was identified in the SRA as a risk driver for on-site exposure scenarios; toxaphene, arsenic, EDP, DBCP, 1,2,3-TCP, chlordane, and dieldrin comprise 99.9% of the C x T risk evaluation	0.0110
1,2,3-trichloropropane	1,2,3-TCP was identified in the SRA as a risk driver for on-site exposure scenarios; toxaphene, arsenic, EDP, DBCP, 1,2,3-TCP, chlordane, and dieldrin comprise 99.9% of the C x T risk evaluation	0.00663
chlordane	Chlordane was identified in the SRA as a risk driver for on-site exposure scenarios; toxaphene, arsenic, EDP, DBCP, 1,2,3-TCP, chlordane, and dieldrin comprise 99.9% of the C x T risk evaluation	0.56
dieldrin	Dieldrin was identified in the SRA as a risk driver for on-site and off-site exposure scenarios; toxaphene, arsenic, EDP, DBCP, 1,2,3-TCP, chlordane, and dieldrin comprise 99.9% of the C x T risk evaluation	0.046
1,2-DCP	Identified as a risk - driver in AOPC 3 and for off-site receptors	0.12

Table 4-3
Chemicals of Interest Used to Develop Remedial Volume Estimates for Soil
Former Brown and Bryant Facility, Shafter, California

Non-carcinogens Used to Develop Soil Remediation Volumes		
Analyte	**Rationale**	**Risk-based Cleanup Goal (RBCG), mg/kg**
kelthane	Kelthane was not identified in the SRA as a risk-driver; however, kelthane, dinoseb, endrin, endrin aldehyde, aldicarb, and pentachloronitrobenzene comprise 99.4% of the non-carcinogenic C / T hazard evaluation	1
dinoseb	Dinoseb was not identified in the SRA as a risk-driver; however, kelthane, dinoseb, endrin, endrin aldehyde, aldicarb, and pentachloronitrobenzene comprise 99.4% of the non-carcinogenic C / T hazard evaluation	2.5
endrin	Endrin was not identified in the SRA as a risk-driver; however, kelthane, dinoseb, endrin, endrin aldehyde, aldicarb, and pentachloronitrobenzene comprise 99.4% of the non-carcinogenic C / T hazard evaluation	1.00
endrin aldehyde	Endrin aldehyde was not identified in the SRA as a risk-driver; however, kelthane, dinoseb, endrin, endrin aldehyde, aldicarb, and pentachloronitrobenzene comprise 99.4% of the non-carcinogenic C / T hazard evaluation	0.74
aldicarb	Aldicarb was not identified in the SRA as a risk-driver; however, kelthane, dinoseb, endrin, endrin aldehyde, aldicarb, and pentachloronitrobenzene comprise 99.4% of the non-carcinogenic C / T hazard evaluation	2.50
pentachloronitrobenzene	Pentachloronitrobenzene was not identified in the SRA as a risk-driver; however, kelthane, dinoseb, endrin, endrin aldehyde, aldicarb, and pentachloronitrobenzene comprise 99.4% of the non-carcinogenic C / T hazard evaluation	7.40
4,4-DDT	Identified in the SRA as a risk-driver in AOPC 2	1.7
4,4-DDE	Identified in the SRA as a risk-driver in AOPC 5	1.7
manganese	Identified in the SRA as a risk-driver for off-site receptors	435
Note: PCBs were not included as a chemical of interest; PCB risk was due to elevated detection limits for the non-detects in the data set		

Table 5-1 Description of Preliminary ARARs Former Brown and Bryant Facility, Shafter, CA

ARAR Type	Authority	Description	Status	Comments
Chemical-Specific ARARs				
Federal	Federal Safe Drinking Water Act 42 U.S.C. 300g-1, 40 CFR 141.161	Establishes Maximum Contaminant Levels for drinking water supplies.	Relevant and Appropriate	Maximum Contaminant Levels (MCLs) have been established for a number of common organic and inorganic contaminants. These levels regulate the concentrations of contaminants in public drinking water supplies. The MCLs are applicable to water that is identified as a public drinking water source. Regional groundwater in the vicinity of the site has elevated contaminant levels from multiple sources not determined to be attributable to the site.
State	California Drinking Water Standards Primary MCLs can be found in Title 22 California Code of Regulations (CCR) §64431-§64444. Specific regulations for lead and copper are in §64670, et seq. Secondary MCLS address the taste, odor, or appearance of drinking water, and are found in 22 CCR §64449.	Establishes Maximum Contaminant Levels for drinking water supplies.	Relevant and Appropriate	Maximum Contaminant Levels (MCLs) have been established for a number of common organic and inorganic contaminants. These levels regulate the concentrations of contaminants in public drinking water supplies. The MCLs are applicable to water that is identified as a public drinking water source. Regional groundwater in the vicinity of the site has elevated contaminant levels from multiple sources not determined to be attributable to the site.
Federal as implemented by State	Resource Conservation and Recovery Act (42 USC 6901-6991[i]) implemented by California Hazardous Waste Control Law as promulgated by 22 CCR 66261.22(a)(3) and (4), § 66261.24(a)(2)–(a)(8), § 66261.101, § 66261.3(a)(2)(C) or § 66261.3(a)(2)(F) § 66261.113	California Hazardous Waste Designation Criteria	Applicable	Applies to newly generated solid waste resulting from soil removal and determination of hazardous waste status. Chemical specific concentrations or attributes of waste that determine it status as RCRA, non-RCRA or extremely hazardous waste. Applies to newly generated solid waste resulting from soil removal and determination of hazardous waste status.

Table 5-1 Description of Preliminary ARARs Former Brown and Bryant Facility, Shafter, CA

ARAR Type	Authority	Description	Status	Comments
Guidance	Department of Toxic Substances Control Human and Ecological Risk Division	Brown and Bryant, Shafter Facility- Risk-Based Cleanup Goals Memorandum, November 17, 2006	To Be Considered	Risk-Based Cleanup Levels developed at DTSC request based on review of Brown and Bryant Health-Based Cleanup Levels submitted to DTSC May, 2006.
Location-Specific ARARs				
Federal	Clean Air Act 42 U.S.C. 7401 et seq.	Establishes National Ambient Air Quality Standards	Applicable	National Ambient Air Quality Standards (NAAQSs) are numeric limits for contaminants in air emissions. These requirements apply to all treatment systems that discharge criteria pollutants. The remedy selected would be subject to air pollutant emission requirements of the Clean Air Act.
Federal	Clean Air Act State Operating Permit Programs Consistent with Title V 40 CFR 70	State Implementation Plan Authorization	Relevant and Appropriate	Establishes Title V Operating Permit program for Major Stationary Sources (100 tons per year potential to emit any air toxic compound or chemical, or more than 50 tons per year of VOCs in serious ozone non-attainment areas (Such as San Joaquin Valley). SVE treatment facility will be designed to place it under the 50 tons year VOCs emission threshold that would require a Title V permit.
Federal as implemented by State	40 CFR Part 50 and 40 CFR Part 52 Subpart D;	Requires compliance with local air standards	Applicable	Any source of criteria pollutants located in an NAAQS non-attainment area must comply with local air quality regulations. The site is located in the San Joaquin Air Pollution Control District (SJAPCD) which is a non-attainment area for ozone and particulate matter less than 10 microns in size. The selected remedy would be subject to SJAPCD emissions standard and requirements.
Federal as implemented by State	SJAPCD Rule 4651 - Volatile Organic Compound Emissions From Decontamination Of Soil	Applies to the excavation and treatment of soil that has been contaminated by organic liquid as a result of leakage from storage or transfer facilities, from accidental spillage, or other deposition. Requires	Applicable	VOC monitoring must be performed during excavation of contaminated soil. If VOC contaminated soil is detected, the excavated soil shall be either transported off-site for treatment, recycling, disposal in an approved disposal site, stockpiled or returned to excavation. Contaminated soil which is not being treated must be covered except when soil is being added or removed. The soil may be covered with a layer of uncontaminated soil

Table 5-1 Description of Preliminary ARARs Former Brown and Bryant Facility, Shafter, CA

ARAR Type	Authority	Description	Status	Comments
		VOC monitoring during excavation. Requires BACT for on-site soil treatment and limits emissions to 2 tons per year of any VOC pollutant. Also requires cover for stockpiled soil to be treated.		no less than six (6) inches deep; or, it may be covered with a tarp or other covering, provided no head space where vapors may accumulate is formed. There is an exemption for Soil contaminated solely by VOC containing liquid that has an initial boiling point of 302 ^{o} F or higher, as determined by ASTM D86-78, provided that the soil is not heated above ambient temperature and samples of the contaminating liquid can be obtained. Requires Authority to Construct approval for on-site VOC treatment. If a decontamination/treatment system is required solely to comply with the substantive requirements of this rule, such system shall not be subject to Rule 2201 (New and Modified Stationary Source Review), , provided the system includes Best Available Control Technology and the emissions do not exceed two (2) tons per year of any affected pollutant.
Federal as implemented by State	SJAPCD Rule 2010	Authority to Construct and Permit to operate new air emission source	Applicable	Compliance with the substantive requirements under the Authority to construct and Permit to Operate requirements will apply to new air emission source for SVE treatment facility.
Federal as implemented by State	SJAPCD Rule 2530	New Source Review	Relevant and Appropriate	Potential to emit restrictions for sources over 25 tons/year of any Hazardous Air Pollutant (HAP) or more than 10 tons per year any single pollutant taking into account emissions control equipment was considered in the SVE emission control system design.
Federal as implemented by State	SJAPCD 8010	Control measures are required to limit fugitive dust PM10 emissions from construction or land disturbing activities	Applicable	Fugitive dust controls will be required for grading and excavation and stockpiling of soil prior to treatment.
Federal	National Archaeological and Historical Preservation Act 16 U.S.C. 469; 36 CFR Part 65	Protection of archaeological and historical artifacts	Applicable	Alteration of terrain that threatens significant scientific, prehistoric, historic, or archaeological data may require actions to recover and preserve artifacts. The selected remedy should not alter or destroy any known prehistoric or historic archeological features at or near the Brown

Table 5-1 Description of Preliminary ARARs Former Brown and Bryant Facility, Shafter, CA

ARAR Type	Authority	Description	Status	Comments
				and Bryant site, particularly given its history of industrial use. However, because there is a possibility that buried historic or prehistoric remains could be discovered during excavation of soil and construction of SVE treatment facility, this regulation would require action to identify, recover, and preserve such artifacts.
Federal	Endangered Species Act 16 U.S.C. 1531-1544; 50 CFR Part 200 and 50 CFR Part 402	Protects critical habitat upon which endangered species or threatened species depend.	Relevant and Appropriate	Requires action to conserve endangered species or threatened species, including consultation with the Department of Interior, Fish, and Wildlife Service. There are currently no known endangered species existing at the site based on ecological risk assessment. However, because there is a possibility that endangered species could be discovered during implementation of the selected remedy, any action that may impact or threaten to impact an endangered species would be subject to the substantive requirements of the Act.
State	Cal. Fish & Game Code §§ 1900, 1908, 2053, and 2080	Projects within the state shall not jeopardize the existence of any endangered or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with preserving the species or its habitat that would prevent jeopardy.	Relevant and Appropriate	There are currently no known endangered species existing at the site based on ecological risk assessment. However, this would be relevant and appropriate should affected biological resources be identified.
Action-Specific ARARs				
State	CA HSC 25355.5 (a) (1) (B)	Establishes process for oversight of site clean up	Applicable	Site is being remediated under DTSC Site Mitigation Branch oversight per this process established under the

Table 5-1 Description of Preliminary ARARs Former Brown and Bryant Facility, Shafter, CA

ARAR Type	Authority	Description	Status	Comments
		with responsible parties.		Hazardous Substance Cleanup Fund.
State	CA HSC 25456.1	Cites CERCLA as basis for preparation and approval of Remedial Action Plans (RAP) by department.	Applicable	Directs that remedial action plans prepared or approved shall be based upon Section 25350, Subpart E of the National Oil and Hazardous Substances Pollution Contingency Plan (40 C.F.R. 300.400 et seq.), and any amendments thereto as well as including Health and safety risks; effect of contamination or pollution levels upon present, future, and probable beneficial uses of contaminated, polluted, or threatened resources; effect of alternative remedial action measures on the reasonable availability of groundwater resources and significantly reduces the volume, toxicity, or mobility of the hazardous substances; not select off-site disposal of untreated waste if -effective on-site treatment technologies are available; site-specific characteristics, including the potential for offsite migration of hazardous substances, the surface or subsurface soil, and the hydrogeologic conditions, as well as preexisting background contamination levels; cost-effectiveness including total short-term and long-term costs.
State	CA HAC 25358.3(a)	Authority to direct a removal or remedial action to address imminent or substantial endangerment from release or threatened releases from a site.	Applicable	Site remedy is being required and directed under this authority.
State	CA HSC 25359.6	Defines abandoned site	Applicable	Site is abandoned per definition: abandoned site" means an inactive disposal, treatment, or storage facility which cannot, with reasonable effort, be traced to a specific owner, a site whose owner has been determined bankrupt, or a location where a hazardous substance has been illegally disposed.
Federal as	RCRA Subtitle C, 40 CFR 262	Person who generates	Applicable	Hazard status of waste that is excavated is must be

Table 5-1 Description of Preliminary ARARs Former Brown and Bryant Facility, Shafter, CA

ARAR Type	Authority	Description	Status	Comments
implemented by State	as implemented in 22 CCR 66262	waste shall determine if that waste is a hazardous waste. Requirements for generators of hazardous waste.		determined by generator. Hazardous waste must be properly marked, labeled, manifested, and placarded. Allowable accumulation time on site for large quantity generators is < 90 days.
Federal as implemented by State	Clean Water Act of 1977, as Amended (33 U.S.C., ch. 26, §§ 1251–1387) per 40 CFR 122.26 and National Pollution Discharge Elimination System California General Permit for Stormwater Discharges Associated with Construction Activities (Construction General Permit, 99-08-DWQ).	Establishes the National Pollutant Discharge Elimination System Permit Program .for Storm Water Discharge from Construction Activities for site disturbance of more than one acre. Requires protection of storm water from pollutant transport off site during construction and land disturbance activities at sites	Applicable	Site grading/excavation and construction activities at the site will need to be undertaken in compliance with substantive requirements of 99-08-DWQ including implementation of Best Management Practices to control erosion and contamination of storm water, BMP inspections, minimizing storm water contact with hazardous waste and hazardous materials. requirements.
State	SWRCB Res. 68-16 (Policy With Respect to Maintaining High Quality of Waters in California)	Incorporated into all Regional Board Basin Plans. Requires that quality of waters of the state that is better than needed to protect all beneficial uses be maintained unless certain findings are made. Requires cleanup to background water quality or to lowest concentrations technically and economically feasible to achieve.	Relevant and Appropriate	Regional groundwater in the vicinity of the site has elevated contaminant levels from multiple sources not determined to be attributable to the site. Remedy is designed to address contamination in the unsaturated zone. Pertinent to establishing appropriate monitoring programs to confirm protection of groundwater quality.
State	23 CCR Division 3, Article 5	Establishes water quality	Relevant and Appropriate	Requirements apply to existing waste management unit

Table 5-1 Description of Preliminary ARARs Former Brown and Bryant Facility, Shafter, CA

ARAR Type	Authority	Description	Status	Comments
		monitoring and response programs for waste management unit.		with established waste discharge requirements (WDR), but facility has been shut down and waste, waste residues and contaminated containment systems and materials are removed. COCs remain in the unsaturated zone at levels that exceed clean up levels.
State	23 CCR 2550	Applicability of Article 5	Relevant and Appropriate	Regulations are applicable to waste management that received hazardous waste between July 1982 and December 1984. Exempts waste management units in compliance with water quality protection standard for three consecutive years with all waste, waste residues, contaminated containment system components, contaminated subsoils and all other contaminated materials removed or decontaminated at closure.
State	23 CCR 2550.1	Monitoring and Response Program requirements.	Relevant and Appropriate	Discharger to waste management unit shall implement an appropriate monitoring and response program consistent with potential adverse affects specified by the RWQCB. This is relevant and appropriate even though the oversight agency is DTSC...
State	23 CCR 2550.2	Water Quality Protection Standard	Relevant and Appropriate	Establish a water quality protection standard in WDR. This is not directly applicable to inactive waste management unit.
State	23 CCR 2550.3	Identify constituents of concern.	Relevant and Appropriate	WDR to specify COCs. Not directly applicable but effectively met by previous Remedial Investigation and groundwater monitoring program that is currently implemented.
State	23 CCR 2550.4	Concentration Limits for groundwater, surface water, and unsaturated zone.	Relevant and Appropriate	WDRs to specify concentration limits for water quality protection. Not directly applicable since there are no WDRs, but concentration limits will be based on remedial action objective to protect groundwater quality.
State	23 CCR 2550.5	Monitoring Points of Compliance is vertical surface at hydraulically downgradient limit of the waste management unit	Relevant and Appropriate	Basis for groundwater monitoring system design and determination that unit is in compliance with groundwater protection standard.

Table 5-1 Description of Preliminary ARARs Former Brown and Bryant Facility, Shafter, CA

ARAR Type	Authority	Description	Status	Comments
		through the uppermost aquifer underlying the unit.		
State	23 CCR 2550.6	Compliance period, the minimum time for conducting water quality monitoring after the release from the unit is number of years equal to life of active unit plus the closure period. If the unit is under corrective action program, unit must be in compliance with water quality protection standard for three consecutive years.	Relevant and Appropriate	Groundwater in the vicinity of the site has elevated contaminant levels from multiple sources not determined to be attributable to the site. Demonstration of compliance with water quality standard for at least three years may be required if evidence of a release is detected.
State	23 CCR 2550.7(b)	General GW monitoring system requirements.	Relevant and Appropriate	Sufficient background monitoring points at appropriate locations and depths to yield GW samples from uppermost aquifer that represents GW quality not affected by a release from waste management unit and to represent GW quality passing point of compliance and earliest detection of release in saturated zone and at points of highest hydraulic conductivity. Prescriptive well construction standards. May need to develop statistical method for determining the significance of detections relative to regional GW quality.
State	23 CCR 2550.7(d)	Unsaturated zone monitoring system	Relevant and Appropriate	Detection system will be part of SVE design and monitoring.
State	23 CCR 2550.7(e)	General monitoring requirements for design, certification, installation	Relevant and Appropriate	Must be incorporated in monitoring system part of any remedy considered.
State	23 CCR 2550.8	Detection Monitoring Program	Relevant and Appropriate	Detection monitoring program elements to be incorporated including statistical method for detection of

Table 5-1 Description of Preliminary ARARs Former Brown and Bryant Facility, Shafter, CA

ARAR Type	Authority	Description	Status	Comments
				contaminants above background.
State	23 CCR 2550.12	Corrective Action where hazardous waste has been discharged at areas other than waste management units	Relevant and Appropriate	A discharger needs to institute corrective action to protect human health and environment for all releases of hazardous waste or hazardous constituents from any area at the facility other than a waste management unit regardless of the time waste was discharged. Also contains provision for discharger to demonstrate financial responsibility.
State	23 CCR 2580	General Closure Requirements	Relevant and Appropriate	Two permanent markers are to be provided.
State	23 CCR 2534	Inert waste left in place does not require prescriptive cap.	Applicable	If the contaminant residue left in place after excavation is completed shows the characteristics of inert waste as defined in Title 23 CCR, Section 2524, the excavation can be backfilled with clean soil. The closure of the site will not need to meet landfill closure requirements.
State	27 CCR 20310 and 20320	Landfill capping general construction criteria and general criteria for containment structures.	Relevant and Appropriate	Provides specific construction requirements for capping municipal waste management units. Identified as relevant and appropriate since there are no cap construction requirements in Title 23.
Federal	40 CFR 264.554	Staging pile definition for remediation waste and	Applicable	Compatible remediation waste can be staged in piles meeting environmental performance standard to facilitate remedy. Staging piles must be designed to prevent or minimize release and control cross-media transfer, meet closure performance standards and maintain records of what was placed in the staging pile. Can be implemented by approval of Remedial Action Plan.
Kern County	Kern County Ordinance Code, Title 14, Chapter 14.08	Well installation standards	Applicable	Well installation and approval requirements would apply to installation of any monitoring wells and new drinking water wells. Would, in effect, limit installation of new drinking water wells in shallow aquifer if not suitable

Table 5-1 Description of Preliminary ARARs Former Brown and Bryant Facility, Shafter, CA

ARAR Type	Authority	Description	Status	Comments
				drinking water source. This may have the same effect as deed restrictions limiting drinking water wells after site remediation.

Notes: U.S.C. - United States Code
CFR - Code of Federal Regulations
CCR – California Code of Regulations
HSC – Health and Safety Code
RWQCB – Regional Water Quality Control Board
SJAPCD – San Joaquin Air Pollution Control District
WDR – Waste Discharge Requirements
NOx – Oxides of Nitrogen

Table 5-2
Soil Volume Estimate, Surface and Near-surface Soil (0-11' bgs)
Brown and Bryant Facility, Shafter, California

Location		Estimated Dimensions			Calculations			Notes
Cell #	AOPC #	Area	Average Depth range	Layer Thickness	Volume	Volume	Weight (using 1.4 tons per cubic yard)	Basis for Remediation - Note "yellow shaded" cells were added based on arsenic RBCG being lowered from 11.74 to 9.4 ppm
		square feet	feet below ground surface	feet	cubic feet	cubic yards	tons	sample location (concentration, contaminant, depth)
1	2	25	0-4	4	100	4	5	6Y (3 mg/kg, toxaphene - 3' bgs)
2	1, 2	3,000	0-2	2	6,000	222	311	PA6 (250 mg/kg, toxaphene - 0' bgs)
	1, 2	625	2-4	2	1,250	46	65	
3a	1	25	0-4	4	100	4	5	9T (0.8 mg/kg, toxaphene - 3' bgs)
3b	1	25	0-4	4	100	4	5	SB-1 (9.5 mg/kg, 4-DDE - 0' bgs and 10.0 mg/kg, As - 2.5' bgs)
3c	2	25	0-4	4	100	4	5	66T (8 mg/kg, toxaphene - 3' bgs)
3d	2	1,225	0-6	6	7,350	272	381	11T (1500 mg/kg, toxaphene - 3' bgs)
3e	2	25	0-4	4	100	4	5	15T (6 mg/kg, toxaphene - 3' bgs)
3f	2	25	0-4	4	100	4	5	10T (17 mg/kg, dinoseb - 0.5' bgs)
3g	2	25	0-4	4	100	4	5	6T (15 mg/kg, arsenic - 3' bgs)
4a	2	9,388	0-2	2	18,775	695	974	see map
	2	4,800	2-4	2	9,600	356	498	PA-3, GM-5A, B-2 (45 mg/kg, toxphene - 5.5' bgs)
	2	200	4-8	4	800	30	41	B-2 and B-4 (2.5 mg/kg, toxaphene - 6' bgs)
	2	200	8-11	3	600	22	31	B-2 (17 mg/kg - As exceeds bg at 15.5' bgs) - below construction worker scenario (11')
4b	2	25	0-4	4	100	4	5	SA-4 (19 mg/kg, dinoseb - 0' bgs; 4.7 mg/kg - 2.5' bgs)
4c	2	25	0-2	2	50	2	3	19T (25.5 mg/kg, arsenic - 0.5' bgs)
4d	2	25	0-2	2	50	2	3	22T (13.5 mg/kg, arsenic - 0.5' bgs)
5a	2	3,200	0-2	2	6,400	237	332	PA-4 (26 mg/kg, toxaphene - 0' bgs)
	2	100	2-4	2	200	7	10	GM-2D (0.648 mg/kg, toxaphene - 2' bgs)
5b	2	1,950	0-2	2	3,900	144	202	29 T (8.6 mg/kg, toxaphene - 0' bgs)
5c	2	1,000	0-2	2	2,000	74	104	SA-9 (3.9 mg/kg, dinoseb - 0' bgs)
		500	2-4	2	1,000	37	52	SS-11 (13.1mg/kg, arsenic - 4' bgs)
6a	3	25	0-2	2	50	2	3	PA 9 (8.5 mg/kg, toxaphene - 1.5' bgs)
6b	3	25	0-4	4	100	4	5	27 T / 70 T - (2.8 mg/kg, dinoseb - 1.7' bgs)
6c	5	25	0-4	4	100	4	5	33Y (19.8 mg/kg, arsenic - 1.7' bgs)
6d	3	25	0-2	2	50	2	3	SB-3 (3.7 mg/kg, dinoseb - 0' bgs)
7a	5	25	0-2	2	50	2	3	SG-3 (170 mg/kg, 4,4-DDE - 0' bgs)
7b	5	100	0-4	4	400	15	21	71 T (2 mg/kg, toxaphene - 3' bgs)
8	1	25	0-3	3	75	3	4	PS105 (0.15 mg/kg, dieldrin - 0' bgs)
9	2	3,050	0-3	3	9,150	339	474	25 T (4 mg/kg, toxaphene - 1.7' bgs); SA-11 10 mg/kg As at 0' bgs
10	3	25	0-2	2	50	2	3	SB-4 (290 mg/kg, dinoseb - 0' bgs)
11a	6	500	0-2	2	1,000	37	52	P4D Composite (4 mg/kg chlordane, 0.5' bgs)
11b	6	500	0-2	2	1,000	37	52	P5A Composite (1.4 mg/kg chlordane, 0.5' bgs)
11c	6	25	'0-5	5	125	5	6	SS-3W (6100 mg/kg, manganese - 4.5' bgs)
11d	6	500	0-2	2	1,000	37	52	P2F Composite (16.7 mg/kg arsenic, 0.5' bgs)
11e	6	25	0-4	4	100	4	5	48T (15.5 mg/kg arsenic, 3' bgs)

Table 5-2
Soil Volume Estimate, Surface and Near-surface Soil (0-11' bgs)
Brown and Bryant Facility, Shafter, California

Location		Estimated Dimensions			Calculations			Notes
Cell #	**AOPC #**	**Area**	**Average Depth range**	**Layer Thickness**	**Volume**	**Volume**	**Weight (using 1.4 tons per cubic yard)**	**Basis for Remediation - Note "yellow shaded" cells were added based on arsenic RBCG being lowered from 11.74 to 9.4 ppm**
		square feet	feet below ground surface	feet	cubic feet	cubic yards	tons	sample location (concentration, contaminant, depth)
11f	4	25	0-2	2	50	2	3	34Y (15.4 mg/kg arsenic, 1.7' bgs)
11g	4	25	0-2	2	50	2	3	20Y (12.8 mg/kg arsenic, 1.7' bgs)
11h	6	25	0-2	2	50	2	3	44T (21.3 mg/kg arsenic, 1.7' bgs)
12	2	25	0-3	3	75	3	4	21 T (10.2 mg/kg arsenic, 1.7' bgs)
13	2	25	0-3	3	75	3	4	SA-3 (11 mg/kg arsenic, 2.5' bgs)
14	2	25	0-3	3	75	3	4	SB-2 (10 mg/kg arsenic, 2.5' bgs)
15	2	25	0-2	2	50	2	3	14T (10.7 mg/kg arsenic, 0.5' bgs)
16	3	25	0-3	3	75	3	4	1E Pond 2 Area (arsenic, 9.5 mg/kg at 0.5' and 10.2 mg/kg at 1.5' bgs)
17	3	25	0-3	3	75	3	4	SS-6 (10.6 mg/kg arsenic - 2' bgs)
18	4	25	0-4	4	100	4	5	30 Y (arsenic, 10.1 mg/kg at 1.7' and 10.9 mg/kg at 3' bgs)
19	4	25	0-2	2	50	2	3	14 Y (11.5 mg/kg arsenic - 0.5' bgs)
20	4	25	0-3	3	75	3	4	18 Y (11.4 mg/kg arsenic - 1.7' bgs)
21	4	25	0-2	2	50	2	3	21 Y (10.3 mg/kg arsenic - 0.5' bgs)
22	5	750	0-4	4	3,000	111	156	SG-2 (9.6 mg/kg arsenic at 2.5' bgs) and 36 Y (11.5 mg/kg arsenic at 3' bgs)
23	6	100	0-11	11	1,100	41	57	SMW-2 (11 mg/kg arsenic at 10' bgs)
24	6	25	0-2	2	50	2	3	3E (11.7 mg/kg arsenic - 0.5' bgs)
25	6	25	0-3	3	75	3	4	5S (11 mg/kg arsenic - 1.5' bgs)
Pond 1	3	4,920	0 - 3	3	14,760	547	765	Various contaminants
ESTIMATED TOTALS (excluding Pond 1)					**77,100**	**2,900**	**4,000**	
ESTIMATED TOTALS (including Pond 1)					**91,860**	**3,447**	**4,765**	

mg/kg - milligram per kilogram

bgs - below ground surface

Notes: Based on exceedances of non-VOC compounds only

= number

AOPC = area of potenial contamination

Appendix A
Administrative Record List
(DTSC to include in Final RAP)

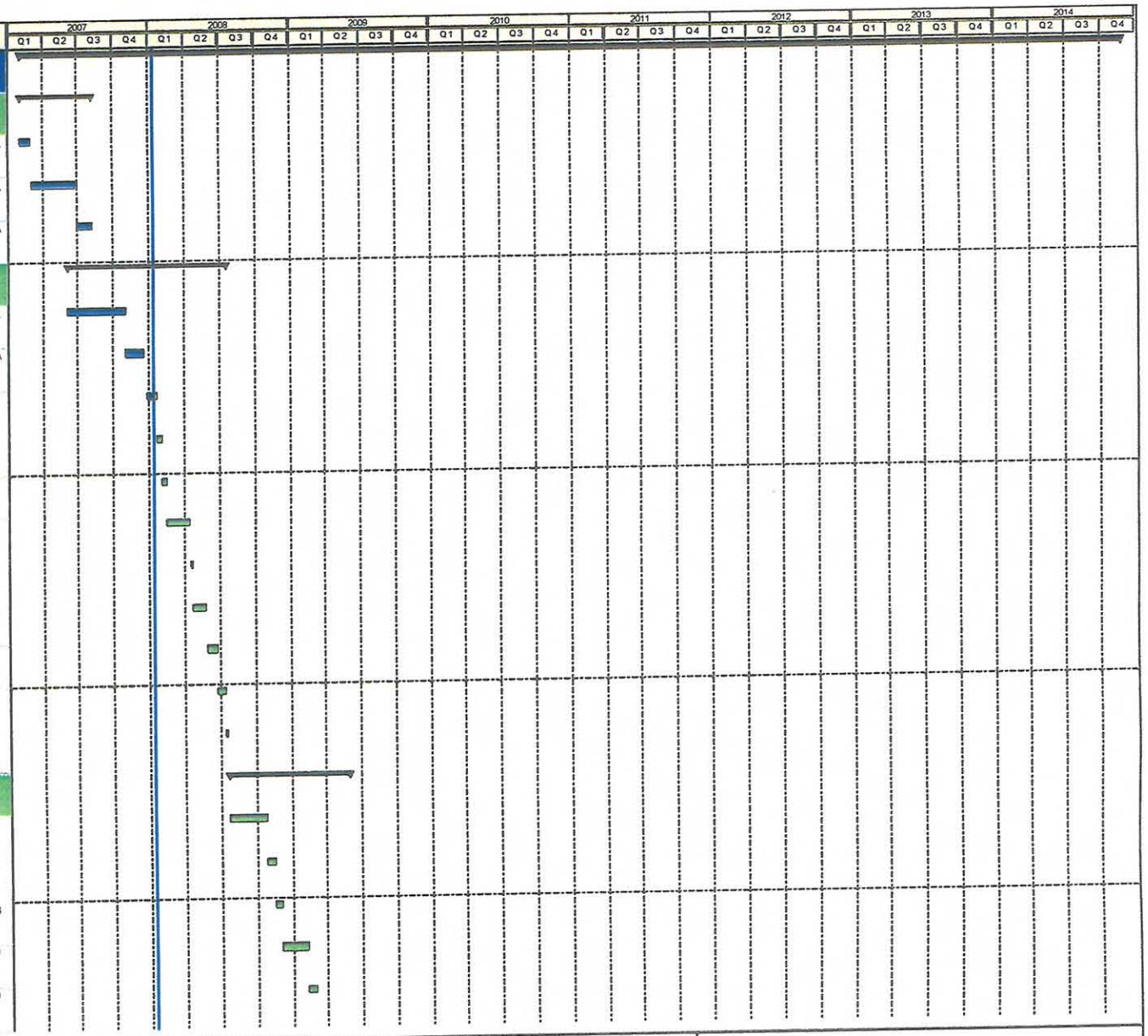
Appendix B
Statement of Reasons and Nonbinding Preliminary Allocation of Responsibility (DTSC to include in Final RAP)

Appendix C
Responsiveness Summary
(DTSC to include in Final RAP)

Appendix D
Final CEQA Documents
(DTSC to include in Final RAP)

Appendix E
Draft Schedule

Activity ID	Activity Name	Start	Finish
	Brown & Bryant	01-Feb-07 A	26-Nov-14
	Feasability Study	01-Feb-07 A	03-Aug-07 A
A1000	Submittal of Draft Feasability Study	01-Feb-07 A	28-Feb-07 A
A1010	DTSC Review Comments Draft FS	01-Mar-07 A	29-Jun-07 A
A1020	Submit RTC / Issue Final FS	01-Jul-07 A	03-Aug-07 A
	Remedial Action Plan (RAP)	01-Jun-07 A	18-Jul-08
A1030	Preparation/Submittal of Draft RAP	01-Jun-07 A	31-Oct-07 A
A1040	DTSC Review/Comment/Approval of Draft RAP	01-Nov-07 A	17-Dec-07 A
A1050	Shaw Prepare/Issue RTC to DTSC Comments	24-Dec-07 A	17-Jan-08
A1060	DTSC Review/Approve RTC	18-Jan-08	31-Jan-08
A1070	Shaw Issue Draft Final RAP	01-Feb-08	14-Feb-08
A1080	CEQA/NEG Declaration Application (DTSC)	15-Feb-08	11-Apr-08
A1085	DTSC Issues DF RAP & CEQA NEG DEC	14-Apr-08	18-Apr-08
A1090	DF RAP 30 Day Public Comment/Meeting Period	21-Apr-08	23-May-08
A1095	DTSC/Shaw Address Public Comments	26-May-08	20-Jun-08
A1100	Shaw Issue Final RAP	23-Jun-08	11-Jul-08
A1110	DTSC Acceptance of Final RAP	14-Jul-08	18-Jul-08
	Design Phase	21-Jul-08	29-May-09
A1120	Shaw Remedial Design/Draft Work Plan Preparation	21-Jul-08	24-Oct-08
A1125	Task Force (TF) Review Draft RD/WP	27-Oct-08	14-Nov-08
A1130	Shaw Incorporate TF Comments / Issue Draft RD/WP	17-Nov-08	02-Dec-08
A1140	DTSC Review/Comment/Approval of Draft RD/WP	03-Dec-08	06-Feb-09
A1150	Shaw Prepare/Issue RTC to DTSC Comments	09-Feb-09	27-Feb-09



Actual Work

Remaining Work

Milestone

Summary

Project 122497

Brown & Bryant Task Force

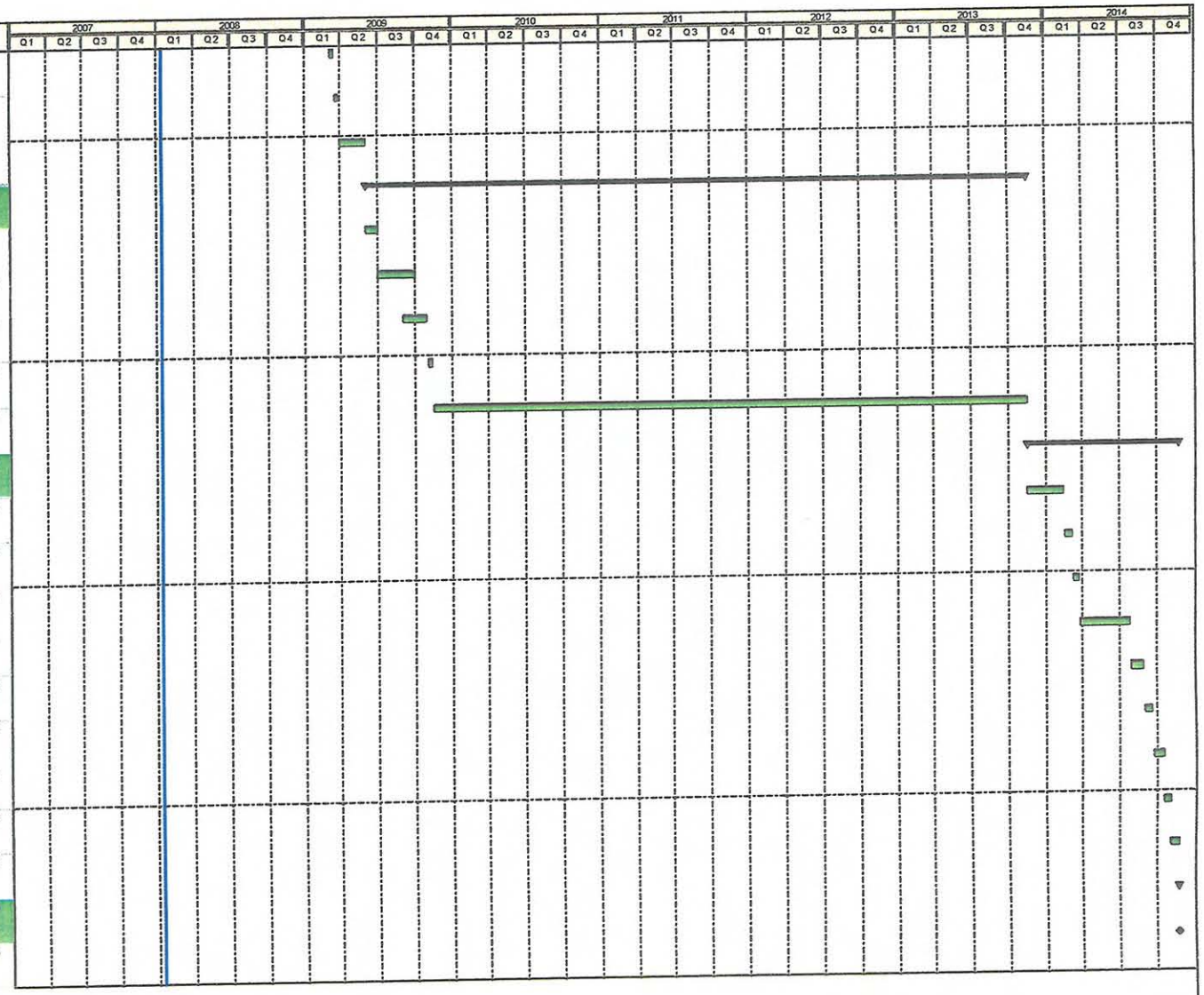
RAP / Initial Study / Public Participation

Shafter, California

Shaw Environmental & Infrastructure, Inc.

DRAFT

Activity ID	Activity Name	Start	Finish
A1160	DTSC Review/Approve RTC	02-Mar-09	13-Mar-09
A1170	Shaw Issue Final RD/WP	16-Mar-09	27-Mar-09
A1175	Task Force Procure Remediation Contractor	30-Mar-09	29-May-09
	Remedial Activities	01-Jun-09	15-Nov-13
A1176	Planning/Preparation for Remedial Activities	01-Jun-09	30-Jun-09
A1180	Performance of Soil Excavation/Waste Disposal	01-Jul-09	30-Sep-09
A1190	Construct/Install SVE Systems & Wells	01-Sep-09	30-Oct-09
A1195	SVE System Start-Up	02-Nov-09	13-Nov-09
A1200	Operation/Monitoring of SVE System (4 Years)	16-Nov-09	15-Nov-13
	Closure Report	15-Nov-13	26-Nov-14
A1210	Preparation of Draft Closure report	18-Nov-13	14-Feb-14
A1215	Task Force Review Draft Closure Report	17-Feb-14	07-Mar-14
A1216	Incorporate TF Comments / Issue Draft Closure Report	10-Mar-14	21-Mar-14
A1220	DTSC's Review/Comments of Draft Closure Report (4 Months)	24-Mar-14	25-Jul-14
A1225	Prepare/Issue RTC to DTSC Comments	28-Jul-14	29-Aug-14
A1226	DTSC Review/Approve RTC	01-Sep-14	19-Sep-14
A1230	Submittal of Final Closure Report	22-Sep-14	17-Oct-14
A1240	DTSC Approval of Final Closure Report	20-Oct-14	31-Oct-14
A1245	Decommissioning of SVE System	03-Nov-14	26-Nov-14
	Period of Performance	26-Nov-14	26-Nov-14
A1250	Project Complete Milestone		26-Nov-14



Actual Work

Remaining Work

Milestone

Summary

Project 122497

Brown & Bryant Task Force

RAP / Initial Study / Public Participation

Shafter, California

Shaw Environmental & Infrastructure, Inc.

DRAFT

Appendix F
Responses to Regulatory Agency Comments

Shaw Environmental, Inc.

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Shaw® Shaw Environmental, Inc.

January 16, 2008

James L. Tjosvold, P.E., Chief
Northern California – Central Cleanup Operations Branch
Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, CA 95826-3200

Re: Responses to Department of Toxic Substances Control Comments
Draft Remedial Action Plan, Former Brown & Bryant Shafter Facility
Shafter, California

Dear Mr. Tjosvold:

On behalf of the Brown & Bryant Shafter Task Force, attached for your review are the responses to the Department of Toxic Substances Control (DTSC) technical review comments dated December 17, 2007 on the Draft Remedial Action Plan (RAP) issued in October 2007. Also attached is a draft Brown & Bryant Shafter project schedule that will be included as Appendix E of the RAP. This schedule assumes no delays due to ongoing litigation.

The Draft Final RAP will be revised and issued following DTSC's concurrence of these responses which is respectfully requested on or before January 31, 2008.

Please do not hesitate to call me at (949) 660-5314 if you have any questions or require additional information.

Sincerely,

Shaw Environmental, Inc., on behalf of the Brown & Bryant, Shafter Task Force

Nerissa Laurente-Schrader, P.E.
Project Manager

Attachments:

- Responses to DTSC Comments
- Draft Brown & Bryant Shafter Project Schedule

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Responses to Department of Toxic Substances Control Comments
Dated December 17, 2007 on the Draft Remedial Action Plan
Brown and Bryant, Shafter, California

Comment No.	Section/Page Number	Comment	Shaw Environmental, Inc.'s Response
General & Technical Comments			
1.		The draft RAP does not present an implementation schedule for the proposed remedial work. There should be some outline presented that provides time frames as to how the cleanup actions will proceed.	Acknowledged. The draft schedule is attached to this response to comments showing the schedule as previously identified by Shaw with the DTSC and the task force. This schedule assumes no delays due to ongoing litigation and lists the path forward from remedial action design through implementation and Site closure. This schedule will be included as Appendix E of the Draft Final RAP.
2.		The draft RAP does not mention the issue of City of Shafter Well #10's location immediately adjacent to the Site. Analytical data at present is inconclusive regarding impacts from the Site on the well. However, deep soil vapor contamination on Site does in fact pose a continuing potential migration route to the well. DTSC will be reviewing design of the proposed soil vapor extraction systems and their operation from the perspective of more definitively demonstrating protection for well #10. Discussion is needed in the draft RAP of a strategy to assess the long term status of Well #10.	Shaw interprets the Site data to indicate that there is little potential for existing soil vapor constituents to impact Well #10, as described below: The City of Shafter installed Well #10 in April 1976 to depth of approximately 710 feet below ground surface (bgs). The well's screened interval is located within the confined lower aquifer and the gravel pack extends from 150 to 700 feet bgs. An aquitard, the Corcoran Clay (~ 365-400 feet bgs) separates the upper unconfined and lower confined aquifers. Monitoring of Well #10 is conducted by the City's Water Division and regulated by the Federal and State Department of Health Services. The City tests each of their water supply wells according to regulatory requirements and compares the data with drinking water standards. A general rule the City employs is the removal of the water source if the detection level is 100 times larger than the action level (1,2,3-TCP, 2006 Consumer Confidence Report for Water Quality, City of Shafter). As indicated in previous Site investigation reports, VOC impacts at the Site are present in two areas: 1) south of Pond 1; and 2) former process area. These areas are located north and northwest of Well #10, respectively. The deepest occurrence of VOCs was reported at approximately 130 feet bgs and detected at levels less than 20 ppb. Previous Site documents (RI Report, Emcon, 1995) also suggest that Site contaminants have not migrated down through the entire vadose zone and therefore have not cross-contaminated the unconfined upper aquifer beneath the Site. Soil modeling (SESOIL) conducted by Shaw at this Site in 2001 showed that relatively little migration takes place when a source (i.e., higher concentrations) of relatively mobile compounds are placed at 130 feet bgs. Additionally, the model concluded that at approximately 170 feet bgs, no downward

Comment No.	Section/Page Number	Comment	Shaw Environmental, Inc.'s Response
			movement of water through the vadose zone exists; hence no potential to transport contaminants to the unconfined upper aquifer and even less chance of impacting the lower confined aquifer which is the groundwater source for Well #10 . Historical groundwater monitoring data since the early 1990's indicate that the Site groundwater quality has not significantly changed throughout the monitoring period (Annual 2006 GW Report, Shaw, Feb. 2007). Site groundwater (upper aquifer) flow direction is trending southwest to west (where identified VOC impacted areas at the Site [located north and northwest], are unlikely to cause impacts to Well #10). Depth to groundwater in the upper aquifer beneath the Site has been historically reported ranging from 227 to 268 feet bgs and continued to be stable around 240 to 250 feet bgs during the last six years. VOC chemicals (i.e., EDB, DBCP, DCP, and TCP) detected at the Site have also been found in regional groundwater. Kern County Environmental Health Services previously indicated that DBCP concentrations exceed 2.0 ppb within one mile north and east of the Site; and EDB concentrations exceeding 1.0 ppb 2 miles south of the Site (RI Report, Emcon, Sept. 1995). Concentrations of DBCP and EDB detected in Site groundwater are generally well below the regional levels. TCP and DCP concentrations in upgradient well SR-7 (upgradient of Pond 1) are also found higher than the rest of the Site wells. Therefore based on information presented above, impacts via soil vapor, soil leaching, or natural migration to either the unconfined upper aquifer or Well #10 lower confined aquifer are believed to be highly unlikely. Soil vapor extraction (SVE) and treatment systems have been recommended and described in the RAP as the soil remedial alternative at the two identified impacted areas. This technology is anticipated to reduce the mass of VOC concentrations in these areas, thus reducing the potential for migration or leaching, though shown in soil modeling to be highly unlikely with existing conditions. Data prior to, during, and after SVE operation at the Site will be documented and will be used to evaluate Well #10 protection and long-term effects in Site groundwater. As indicated in Comment 4 response below, provisions for continuing groundwater monitoring and operation of the SVE system can be established subsequent to the remedial action activities.
3.		The draft RAP makes reference to the use of deed notices in Section 5.5.2 and 5.7. DTSC solely employs	Acknowledged. References to deed notices will be removed from the RAP and replaced with land use covenants.

Comment No.	Section/Page Number	Comment	Shaw Environmental, Inc.'s Response
		Land Use Covenants (LUC) to restrict property use when residual contamination (after remedial actions) precludes unrestricted use. LUC's are enforceable and notify all potential property owners, renters, and leasee's of the property's status. Thus, references to deed notices should be removed from the RAP document.	
4.		DTSC requires responsible parties that leave residual contamination on properties after cleanup actions to enter into Operation and Maintenance Agreements (O&M). The draft RAP should reference that an O&M Agreement will be an administrative control subsequent to cleanup actions at the Site. The O&M Agreement will address continuing groundwater monitoring, Site security and access, and operation of the soil vapor extraction and treatment system. In addition, DTSC will require five year review evaluations of the implemented remedy for as long as operation and maintenance of the Site is necessary. The five year review requirements should also be referenced in the draft RAP.	Acknowledged. A discussion regarding an O&M agreement for the Site will be included in Section 5.7 as follows: *"An O&M agreement will be developed subsequent to the soil removal actions at the Site as administrative control. The agreement will address continuing groundwater monitoring, Site security and access, and long-term operation of the soil vapor extraction and treatment systems, if necessary (i.e., significant rebounding of soil vapor concentrations occurs). The requirement for five year review evaluations of implemented remedy can also be addressed at that time, where evaluation of impact by the Site to Well #10 could also be included. A realistic O&M agreement can be developed following the completion of Site remedial actions described in this RAP."*

Department of Toxic Substances Control

Linda S. Adams
Secretary for
Environmental Protection

Maureen F. Gorsen, Director
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Clovis, California 93611

Arnold Schwarzenegger
Governor

Received
1/2/08

December 17, 2007

Ms. Nerissa T. Laurente-Schrader, P.E.
Project Manager
Shaw Environmental, Inc.
3347 Michelson Drive, Suite 200
Irvin, California 92612-1692

BROWN AND BRYANT, SHAFTER – REVIEW OF DRAFT REMEDIAL ACTION PLAN

Dear Ms. Laurente-Schrader:

The Department of Toxic Substances Control (DTSC) has reviewed the above referenced document. The draft Remedial Action Plan (RAP) conceptually addresses the main concerns posed by the Site. Contaminated soils will be excavated and transported for appropriate disposal. Additionally, extraction and treatment of substantial contamination residing in soil vapors underlying the Site will be accomplished. Specifics and technical details of RAP implementation will be addressed in engineering design documents that must be submitted for the proposed remedial actions. Nonetheless the following comments relate to necessary modifications in the draft RAP prior to its release for public review and comment:

1. The draft RAP does not present an implementation schedule for the proposed remedial work. There should be some outline presented that provides time frames as to how the cleanup actions will proceed.
2. The draft RAP does not mention the issue of City of Shafter Well #10's location immediately adjacent to the Site. Analytical data at present is inconclusive regarding impacts from the Site on the well. However, deep soil vapor contamination on Site does in fact pose a continuing potential migration route to the well. DTSC will be reviewing design of the proposed soil vapor extraction systems and their operation from the perspective of more definitively demonstrating protection for well #10. Discussion is needed in the draft RAP of a strategy to assess the long term status of Well #10.
3. The draft RAP makes reference to the use of deed notices in Section 5.5.2 and 5.7. DTSC solely employs Land Use Covenants (LUC) to restrict property use when residual contamination (after remedial actions) precludes unrestricted use. LUC's are enforceable and notify all potential property owners, renters, and leasee's of the property's status. Thus, references to deed notices should be removed from the RAP document.

4. DTSC requires responsible parties that leave residual contamination on properties after cleanup actions to enter into Operation and Maintenance Agreements (O&M). The draft RAP should reference that an O&M Agreement will be an administrative control subsequent to cleanup actions at the Site. The O&M Agreement will address continuing groundwater monitoring, Site security and access, and operation of the soil vapor extraction and treatment system. In addition, DTSC will require five year review evaluations of the implemented remedy for as long as operation and maintenance of the Site is necessary. The five year review requirements should also be referenced in the draft RAP.

Please make the appropriate changes to the draft RAP and resubmit the document by January 17, 2008 for our approval. Should you have any questions regarding this letter, please contact the project manager, Mr. Calden Koehn, Hazardous Substances Engineer of the Fresno Responsible Party Unit, Northern California – Central Cleanup Operations Branch at (559) 297-3937, or me at (916) 255-3730.

Sincerely,

James L. Tjosvold, P.E., Chief
Northern California – Central Cleanup Operations Branch

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Responses to Second Set of Department of Toxic Substances Control Comments
Draft Remedial Action Plan, Dated February 25, 2008
Brown and Bryant, Shafter, California

Comment No.	Section/Page Number	Comment	Shaw Environmental, Inc.'s Response
General & Technical Comments			
1.		Paragraph 1 of the Shaw response fails to note that the gravel pack for Well # 10 extends through the Corcoran Clay. Thus the construction of Well # 10 does in fact allow for significant potential pathway for VOC contamination in the upper aquifer to migrate to the lower confined regional drinking water and water supply aquifer where Well # 10 is screened. DTSC additionally has a similar concern that Well # 10 is susceptible as a conduit for vadose zone soil gas migration down the gravel pack filter.	Comment noted.
2.		Paragraph 4 of the Shaw response makes statements indicating that the Site has not impacted local groundwaters. Reference is made to the presence of VOC chemicals in regional groundwater at higher levels than detected in Site groundwater. TCP and DCP concentrations in upgradient well SR-7 are stated to be higher than the rest of Site groundwater monitoring wells. Please note there is past data showing downgradient monitoring wells with higher concentrations of VOCs than those analyzed in well SR-7. Furthermore, evaluations of past data can lead one to conclude that historical high concentrations of DBCP and DCP are much elevated in the downgradient wells than in well SR-7.	Comment noted.
General		Due to the irregular and variable groundwater quality trends documented with the Site's groundwater monitoring network, DTSC has determined that a definitive statement of past operational practices at the Site on local groundwater cannot be made. Consequently, the RAP will need to be modified to reflect the current uncertainty of Site impacts on local groundwaters. Emphasis should be	Comment noted. Since the information included in the RAP were lifted from previously approved documents (i.e., Final RI Report, Baseline HHHRA, and the Final FS Report), definitive statements discussing Site impacts on local groundwater may not be present in the RAP. However, the document will be reviewed again to ensure such.

Comment No.	Section/Page Number	Comment	Shaw Environmental, Inc.'s Response
		placed on the continuation of groundwater monitoring as an ongoing surveillance measure. At least one monitoring well will be needed for early detection monitoring due to remaining concerns of potential impacts on City of Shafter well #10 from the Site.	A new paragraph will also be added in Section 5.7 of the RAP emphasizing continuation of groundwater monitoring as an ongoing surveillance measure; as well as, the additional measure for early detection monitoring of potential impacts to Well #10. One groundwater monitoring well will be installed either in the southern portion of AOPC 3 or the western portion of AOPC 5 (Figure 5-2). This well will provide early detection of potential groundwater impacts from the upgradient Pond 1 area into Well #10. Location of this well will be finalized during the remedial design. Monitoring of this well will also be incorporated into the existing monitoring program.

Laurente, Nerissa

From: Laurente, Nerissa

Sent: Friday, April 04, 2008 1:53 PM

To: 'Calden Koehn'

Cc: 'Clark, David C (Topeka)'; thassett1@herc.com; mlbone@comcast.net; RMRouse@dow.com; 'tkovac@dtsc.ca.gov'; 'jtjosvol@dtsc.ca.gov'

Subject: Responses to Second DTSC Comments on the Draft RAP, Brown & Bryant Shafter

Importance: High

Attachments: RTC to 2nd DTSC comments RAP 4-4-08.pdf

Cal,

On behalf of the Task Force, please see attached responses to the second set of DTSC comments (dated February 25, 2008) on the Draft Remedial Action Plan. Shaw will proceed to revise the RAP to incorporate these comments and the previous DTSC comments dated December 17, 2007. The Draft Final RAP is being shipped to distribution today and should be received in your office early next week.

The proposal to install a sentinel groundwater monitoring well to address the Well #10 issue has been added into the RAP based on your communication with the Task Force on March 28, 2008.

Sincerely,

Nerissa Laurente-Schrader, P.E.
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Arnold Schwarzenegger
Governor

February 25, 2008

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BROWN AND BRYANT, SHAFTER – REVIEW OF SHAW'S RESPONSES TO THE DEPARTMENT OF TOXIC SUBSTANCES CONTROL COMMENTS ON THE DRAFT REMEDIAL ACTION PLAN

Dear Ms. Laurente-Schrader:

The Department of Toxic Substances Control (DTSC) has reviewed Shaw's responses to DTSC's comments on the draft Remedial Action Plan (RAP). Shaw's response to DTSC comments 1, 3, and 4 are appropriate. However, some clarification or modification is needed for Comment 2 which addresses concerns about City of Shafter Well # 10:

1. Paragraph 1 of the Shaw response fails to note that the gravel pack for Well # 10 extends through the Corcoran Clay. Thus the construction of Well # 10 does in fact allow for significant potential pathway for VOC contamination in the upper aquifer to migrate to the lower confined regional drinking water and water supply aquifer where Well # 10 is screened. DTSC additionally has a similar concern that Well # 10 is susceptible as a conduit for vadose zone soil gas migration down the gravel pack filter.
2. Paragraph 4 of the Shaw response makes statements indicating that the Site has not impacted local groundwaters. Reference is made to the presence of VOC chemicals in regional groundwater at higher levels than detected in Site groundwater. TCP and DCP concentrations in upgradient well SR-7 are stated to be higher than the rest of Site groundwater monitoring wells.

   Please note that there is past data showing downgradient monitoring wells with higher concentrations of VOCs than those analyzed in well SR-7. Furthermore, evaluations of past data can lead one to conclude that historical high

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concentrations of DBCP and DCP are much elevated in the downgradient wells than in well SR-7.

Due to the irregular and variable groundwater quality trends documented with the Site's groundwater monitoring network, DTSC has determined that a definitive statement of past operational practices at the Site on local groundwater cannot be made. Consequently, the RAP will need to be modified to reflect the current uncertainty of Site impacts on local groundwaters. Emphasis should be placed on the continuation of groundwater monitoring as an ongoing surveillance measure. At least one monitoring well will be needed for early detection monitoring due to remaining concerns of potential impacts on City of Shafter well #10 from the Site.

Should you have any questions regarding this letter, please contact the project manager, Mr. Calden Koehn, Hazardous Substances Engineer of the Fresno Responsible Party Unit, Northern California – Central Cleanup Operations Branch at (559) 297-3937, or me at (559) 297-3939. Please note that DTSC is pursuing a procedure for electronic CCs and BCCs utilizing its Envirostar database accessible through DTSC's public website. Future DTSC correspondence will be transmitted in electronic format.

Sincerely,

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CK17.028

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CK:cm
CK17.028

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Brown and Bryant – Shafter Facility 135 Commercial Drive, Shafter, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-17-10

Photo No. **1**

Direction Photo Taken:

Looking south

Description:

Main entrance to the site on the north side. Note Hazardous Materials Warning signs.

Photo No. **2**

Direction Photo Taken:

Looking west

Description:

View of the north side of the site (left) from the main entrance and adjacent offsite rail spurs (BNSF).

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Brown and Bryant – Shafter Facility 135 Commercial Drive, Shafter, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-17-10

Photo No.
3

Direction Photo Taken:

Looking southwest

Description:

Remediation system purge water storage near the center of the site as viewed from the northeast corner. Note concrete slabs and structure foundation remnants. Note the flatbed rail cars on the BNSF tracks beyond the site.

Photo No.
4

Direction Photo Taken:

Looking southwest

Description:

View across the site from the northeast corner. Note the large AST and lined pond (see Photo 8 below).

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Brown and Bryant – Shafter Facility 135 Commercial Drive, Shafter, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-17-10

Photo No.
5

Direction Photo Taken:

Looking west

Description:

View of the north side of the site from the northeast corner. Note the offsite rail spur in the right of the frame.

Photo No.
6

Direction Photo Taken:

Looking west

Description:

View of the west side of the site and the only remnants of structures. Note the flatbed rail cars on the BNSF tracks beyond the site.

PHOTOGRAPHIC LOG

California High Speed Train	**Fresno to Bakersfield Baseline Conditions Report** Brown and Bryant – Shafter Facility 135 Commercial Drive, Shafter, CA 93725	**URS Project No.** 27560811.53090100 **Date:** 3-17-10

Photo No.
7

Direction Photo Taken:

Looking southeast

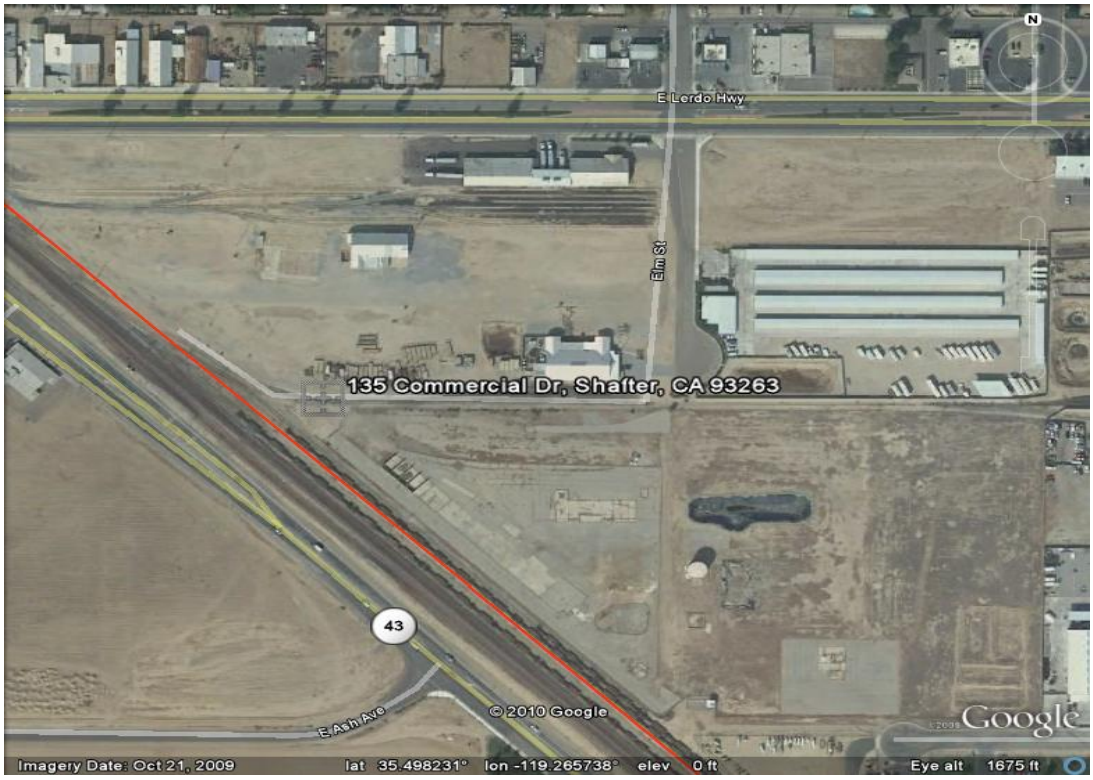
Description:

View of the west side of the site along the BNSF tracks. Note concrete block walls (see Photo 6).

Photo No.
8

Direction Photo Taken:

Aerial view

Description:

B&B site (area south of Commercial Dr). Note plastic lined pond and AST. Concrete wall structure is also visible on the west end. The proposed CAHST alignment is the red line parallel to Hwy 43. NOTE: Google Earth Imagery dated 10/21/09; Google Earth website accessed 3/17/10.