AERIAL PHOTOGRAPHIC ANALYSIS
CASMALIA DISPOSAL SITE
CASMALIA, CALIFORNIA

August 25, 2003

Prepared By: ERI

Aerial Photographic Analysis
Casmalia Disposal Site
Casmalia, California

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Prepared for:
The Casmalia Resources Site
Steering Committee (CSC)

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SUPPLEMENTAL AERIAL PHOTOGRAPHIC ANALYSIS
CASMALIA DISPOSAL SITE

Casmalia, CA

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INTRODUCTION

The following is a supplemental report to the aerial photographic analysis of the Casmalia Disposal Site completed in April 2001. This report focuses on eight additional dates of aerial photographs: July 29, 1977; July 18, 1979; September 15, 1980; June 18, 1981; December 16, 1981; July 2, 1982; October 6, 1983; and November 22, 1988. This analysis was conducted to document landscape morphology, patterns of waste disposal, and other observable activities and conditions of environmental significance at the site, and for the adjacent area encompassed by a one-mile radius from the center of the site. The period of analysis spans the time frame from 1977 to 1988.

Figure 1 consists of an overlay to a color copy mosaic of the Casmalia and Guadalupe, California 1982 U.S. Geological Survey (USGS) topographic maps, 1:24,000-scale, and illustrates the local study area of the Casmalia Disposal Site. The Casmalia Disposal Site encompasses approximately 101 hectares (250 acres), and is represented on Figures 2 through 9 in the Appendix. The April 2001 report included the one-mile radius around the site as Photo Area B. Since there were no significant findings within Photo Area B for the additional dates analyzed, these figures were not reproduced.

One date of black-and-white aerial photographs and seven dates of color aerial photographs were acquired, analyzed, and reproduced for this report. Stereo coverage was not available for 1977, 1979, 1980, and 1983.

Significant features identified by this analysis in Photo Area A include 42 ponds, impoundments, a burial cell unit, six landfills (drums were seen at five of the landfills), ground scars, tank trailers, sludge, spreading areas, liquid spray areas, staining, liquid, horizontal and vertical tanks, excavations, graded areas, mounded material, trenches, and light-colored objects. Significant findings identified on the perimeter of the site include staining on the primary access road and excavations surrounding the site.

All environmentally significant features are annotated on the print enlargements found in the appendix in the back of this report. Features (e.g. access roads, impoundments, etc.) will be annotated when they are visible, however they may not be discussed unless associated with an environmentally significant observation. Additionally environmentally significant features and/or observations

that are discussed when first visible may not be further discussed in subsequent years of analysis unless significant change is noted. Stains are identified and annotated throughout the analysis when they are visible. The source for a stain is only discussed or annotated when it is determined. Features not annotated on the subsequent year's print enlargement are no longer visible or are inactive.

A glossary, defining features or conditions identified in this report, follows the Analysis section. Sources for all maps, aerial photographs, and collateral data used in this report are listed in the References section.

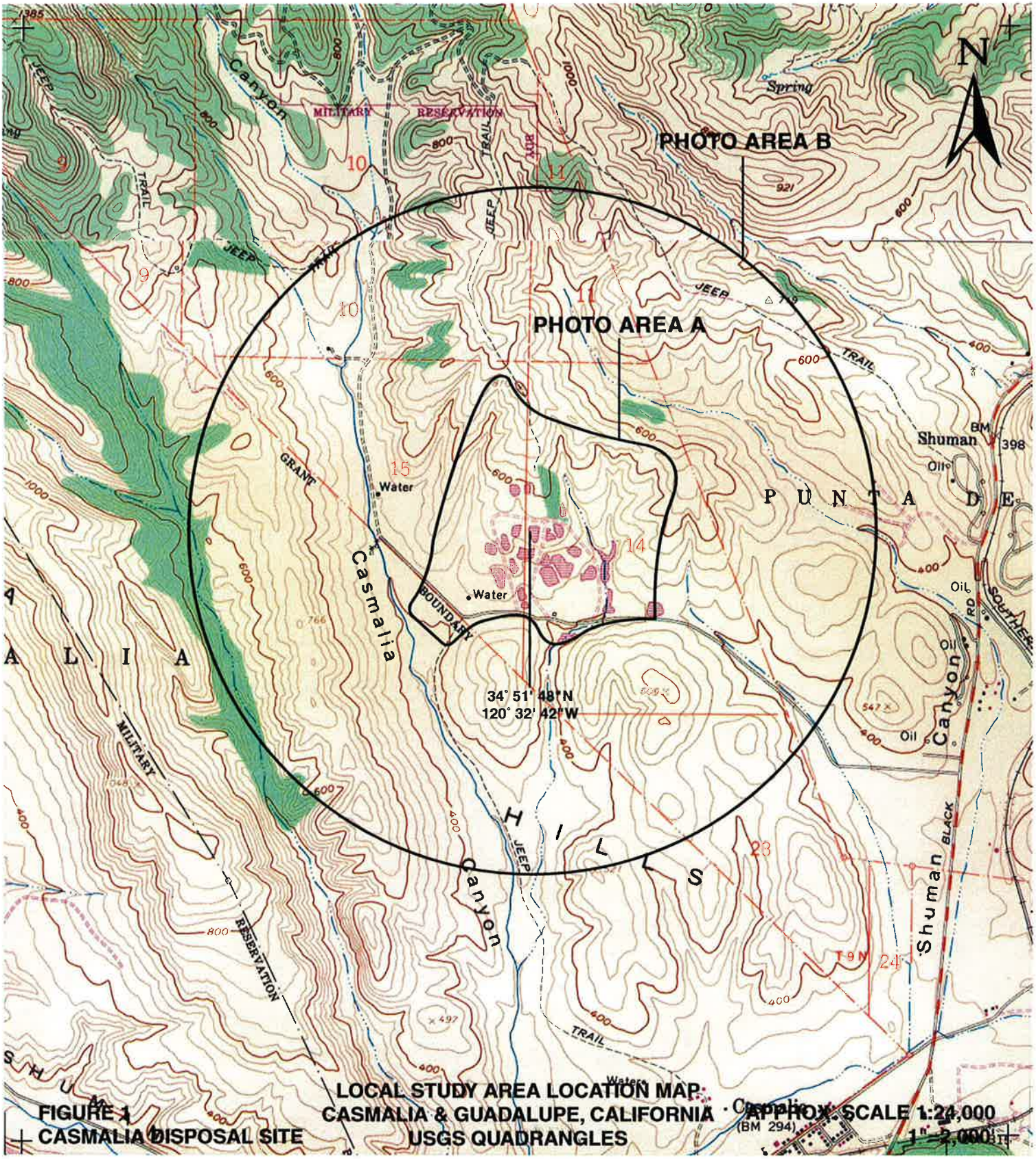


FIGURE 1
CASMALIA DISPOSAL SITE

LOCAL STUDY AREA LOCATION MAP
CASMALIA & GUADALUPE, CALIFORNIA
USGS QUADRANGLES

APPROX. SCALE 1:24,000
1" = 2,000'

METHODOLOGY

This report was prepared using a standard methodology that includes the following steps:

- data identification and acquisition,
- photographic, and
- graphics and text preparation.

These steps are described in this section. Subsections also address details related to specific kinds of analyses that may be required to identify environmental features, such as surface drainage and wetlands. All steps and processes used to perform this work (including data identification and acquisitions; photographic analysis; and graphics and text preparation) adhere to strict QA/QC guidelines and standard operating procedures (SOP).

Data identification and acquisition included a search of government and commercial sources of historical aerial photographs to identify and obtain photography with optimal spatial and temporal resolution and image quality for the study area. In addition, U.S. Geological Survey (USGS) topographic maps were obtained to show the study area location and to provide geographic and topographic context.

To conduct this analysis, the analyst obtained diapositives (transparencies) of historical aerial photographs showing the study area. Diapositives are most often used for analysis instead of prints because the diapositives have superior photographic resolution. Diapositives show minute details of significant environmental features that may not be discernible on paper prints.

A photographic analyst uses a stereomicroscope to view adjacent, overlapping pairs of diapositives on a backlit light table. In most cases, the stereomicroscope is capable of magnifications up to 60 times the size of the feature on the diapositive. Stereoscopic viewing applies the principle of parallax (observing a feature from slightly different positions) to observe a three-dimensional representation of the area of interest. The stereomicroscope enhances the photo interpretation process by allowing the analyst to observe vertical as well as horizontal

spatial relationships of natural and cultural features. The zoom scope is also used when viewing monoscopic images.

Photographic analysis involves visual examination and comparison of many components of a photographic image. These components include size, shape, shadow, tone, color, texture, pattern, and landscape context of individual elements of a photograph. The photo analyst identifies objects, features, and "signatures" associated with specific environmental conditions or events. The term "signature" refers to a combination of components or characteristics that indicate a specific object, condition, or pattern of environmental significance. A photographic analyst academic and professional training, photo interpretation experience gained through repetitive observations of similar features or activities, and deductive logic as well as background information from collateral sources (e.g., site maps, geologic reports, and soil surveys) in the photographic analysis.

The analyst records the results of the analysis by using a standard set of annotations and terminology to identify objects and features observed in the diapositives. These objects, features, and other significant findings are annotated on overlays attached to the photographs in the report and discussed in the accompanying text. Annotations that are self-explanatory may not be discussed in the text. The annotation acronyms are identified in the foldout legend that is located in the back of this book and in the text when it is first used.

Objects and features are identified on the print enlargements and text according to the analyst's degree of confidence in the evidence. When the analyst believes the identification is unmistakable, no qualifier is used. Probable is used when a limited number of discernible characteristics allow the analyst to be reasonably certain of a particular identification. Possible is used when only a few characteristics are discernible, and the analyst can only infer identification.

The print enlargements presented in this report have been reproduced by computer methods from the original film. The computer-produced prints used in this report are generated from scans of the film at approximately 1,300 dots per inch (dpi) and printed at 720 dpi. Although the reproductions allow effective display of the interpretive annotations, they have less photographic resolution than the original film. Therefore, some of the objects and features identified on the

original image and described in the text may not be clearly discernible on the prints in this report.

Study area boundaries shown in this report were determined from aerial photography or collateral data and do not denote legal property lines or ownership.

Surface Drainage

The surface drainage analysis produced for this report identifies the direction and potential path that a surface runoff or liquid spill would follow based on the topography of the terrain and the presence of discernible obstacles to surface flow. The analyst determines the direction of surface drainage by stereoscopic analysis of the aerial photographs and by examining USGS topographic maps. Site-specific surface drainage patterns are annotated on the map or photo overlay. Where the direction of drainage cannot be determined, an indeterminate drainage line symbol is used. Regional surface flow is ascertained from the USGS topographic maps.

PHOTO ANALYSIS

JULY 29, 1977 (FIGURE 2)

Dark-colored staining is seen on the primary access road. Probable staining is seen north of the primary access road in the southeastern portion of the site. Two vertical tanks are seen on a hill in the northwestern portion of the site.

Annotation	Description
P1	Probable liquid is visible in the pond.
P2	Four impounded areas are visible in the pond. A drainage pathway leads to the northern portion of the pond from Pad 4A.
P3	Two impoundments with liquid and grading (GR) is noted in this area.
P4	Grading is noted in this area.
P9	Grading is noted in this area.
P10	Liquid is visible in the pond. A drainage channel beginning in the northern portion of the site enters the northern portion of the pond.
P13	Liquid is seen in the pond. A drainage channel (probably under construction) is visible to the north. A graded area is visible in this vicinity.
P14	A small impoundment is observed in this vicinity.
P15	Liquid is seen in the pond.
P16	Liquid and light-colored material are visible in the pond.
P17	Rectangular area of liquid is seen in the pond.
P18	Liquid is seen in the pond.
PA-1	Grading is seen in the vicinity of the future pond.
PA-6	Grading is seen in the vicinity of the future pond.
PA	Light-colored material and liquid are seen in the pond. A drainage pathway emanating from near a plume near a possible pipe enters the pond from the east.
PB	Liquid is visible in the pond. A pipe leads from the southern part of the pond to the oil recovery unit (OCR). Liquid and staining are visible on the northern berm of the pond.
PC	Liquid is seen in the pond. Multi-colored material and staining are seen on the northern berm of the pond.
PD	Liquid is visible in the pond. Liquid and multi-colored material are visible on the northern berm of the pond.
PE	Liquid is visible in the pond.
PJ	Liquid is visible in the pond.

PL	Liquid is visible in the pond. Reddish/brown liquid is seen in the eastern portion. Drainage channels enter the impounded area from the direction of **PD**.
PM	Two impounded areas are seen in this area. The northern portion (which contains liquid) is joined with **PT**. The southern portion contains turbid liquid and light-colored material.
PP	Not visible.
PR	The pond contains turbid liquid. A probable dumping area is noted on the western berm of the pond.
PS	The pond contains liquid. A drainage channel leads to it from the west, beyond the oil recovery unit. Approximately five rectangular shaped probable impoundments (not annotated) surround the pond to the south.
PT	This pond is joined by two channels to **PM**. The northern portion contains liquid. The southern portion contains turbid liquid.
PV	Liquid and grading are seen in this vicinity.
WCCB	Not visible.
PAD 4A	The pad drains to the two northern impoundments that make up **P2** and contains brown material and probable liquid.
PAD 10B	Surface grading is visible.
PAD 10C	Surface grading is visible.
PAD 10E	Surface grading is visible.
PAD 10F	Surface grading is visible.
PAD 10G	Surface grading is visible.
SL1	Grading is noted in this vicinity.
PCB LF	Not visible.
PESTICIDES/ SOLVENTS LF	Surface grading is visible.
HEAVY METALS LF	Surface grading is visible.
CAUSTIC/ CYANIDE LF	Surface grading is visible.
ACIDS LF	Surface grading is visible.
MAINTENANCE SHED AREA	Two horizontal tanks (HT) and one probable (PROB) horizontal tank are visible south of the Maintenance Shed. Staining is seen on a road to the southwest. A vertical tank is seen to the northwest.
BURIAL CELLS UNIT	A trench (TR) with liquid and a probable trench are visible in the burial cells unit. A probable injection well cap (not annotated) is also visible. Staining is visible on an access road in the eastern portion of this area.
RCRA CANYON AREA	Erosion gullies are seen in the northern portion of this area.

JULY 18, 1979 (FIGURE 3)

Two vertical tanks remain visible on a hill in the northwestern portion of the site.

Annotation	Description
P1	Grading activity is noted in this vicinity.
P2	Four impounded areas containing liquid are visible. Drainage from Pad 4A leads to the northern portion of **P2**.
P3	Liquid is visible in the pond.
P4	Liquid is visible in the pond.
P5	Pond is not visible.
P6	Liquid is seen in an impounded drainage. A smaller impounded area is seen nearby to the east. Gray material, liquid, and staining (not annotated) are seen to the northeast of this pond in a drainage that leads to it.
P7	Liquid is visible in the pond. Possible pipe is seen at head of drainage in northwest portion.
P8	Liquid is visible in the pond. Pond is probably connected by a pipe to **P7**. A pipe is visible in the northwest corner of the pond.
P9	Liquid is visible in the pond.
P10	Liquid is visible in the pond.
P11	Liquid and a graded area are visible in the pond.
P12	Liquid is visible in the pond. A pipe (not annotated) is visible spanning from **P11** to **P12**.
P13	Two impounded areas with liquid and grading are visible in the pond.
P14	Reddish brown liquid is visible in the pond. An outfall pipe (not annotated) extends into in the northwest corner of the pond. A dumping area is visible in the southeast corner of the pond. Piping is seen north of the pond (which is possibly connected to the pipe seen north of the pond), which extends south towards **P15**.
P15	Liquid with brown and white material is visible in pond. An outfall pipe is visible in the northeast corner.
P16	Turbid green liquid is visible in the southern portion of the pond. White and gray material or sludge is seen on and around the northern berm of the pond.
P17	Liquid is seen in the pond. Light green liquid is seen in the southern portion with pipe (not annotated) possibly feeding into a drainage that leads to the pond from the south.
P18	Liquid, light-toned material, and graded areas are observed in the pond.
PA-1	The graded area previously seen in this vicinity is now partially vegetated.

PA-6	The graded area previously seen in this vicinity is now partially vegetated.
PA	Liquid (emanating from a probable pipe (not annotated)) and staining are observed on the northern berm of the pond. Turbid liquid is seen in the pond. Pipes are seen at the eastern and southern edges of the pond.
PB	Liquid (emanating form a pipe (not annotated)) and staining are observed on the northern berm of the pond. A pipe is seen near the southern edge of the pond. Turbid liquid is seen in the pond.
PC	Turbid liquid and gray material are seen in the pond and on its northwestern berm. Staining is also seen on the berm.
PD	Liquid and multi-colored material or sludge are visible in the pond. A tanker truck is backed up to the northeastern berm.
PE	Liquid is seen in the pond. A pipe (not annotated) is seen along the western perimeter of the pond. Another pipe (not annotated) extends south from the pond and then continues underground, possibly to **PJ**.
PJ	Liquid is seen in the pond. A pipe (not annotated) extends from the southern portion of the pond southward, and then continues underground, possibly to **P2**.
PL	Liquid and white and gray material or sludge are seen in the pond. The pond probably receives drainage from **PD**.
PM	**PM** has two impounded areas. The northern portion, which contains liquid, is being moved and graded into the southern portion. The southern portion contains liquid and staining in the graded areas.
PP	Liquid is visible in the pond. A possible outfall pipe (not annotated) is visible in the southwestern corner.
PR	Pond contains liquid with reddish/brown material around the edges. A dumping area is seen on the western edge of the pond. An impoundment containing light-colored material and liquid is seen to the south. The impoundment is connected to **PR** by a drainage channel in the future.
PS	Pond contains liquid. A drainage pathway leads to it from the oil recovery unit.
PT	The pond contains liquid and gray material or sludge.
PV	The pond contains liquid.
PAD 4A	Contains probable liquid and drains toward **P2**. Gray material is seen in the southwestern portion.
PAD 8A	Staining is visible.
PAD 10B	Surface grading is visible.
PAD 10C	Surface grading is visible.
PAD 10E	Surface grading is visible.
PAD 10F	Surface grading is visible.

JULY 18, 1979 (FIGURE 3) cont'd.

PAD 10G	Surface grading is visible.
SL1	Contains graded light-toned material.
PCB LF	Contains approximately 90 drums in fill area.
PESTICIDES/ SOLVENTS LF	Graded areas are seen in northernmost and southernmost extent of the landfill.
HEAVY METALS LF	Active grading is observed.
CAUSTIC/ CYANIDE LF	Graded gray and dark-toned material seen.
ACIDS LF	Light-colored (LC) material (M) is spread in a flow pattern below the northern part of the perimeter road.
MAINTENANCE SHED AREA	A vertical tank remains to the northwest. Two horizontal tanks and one probable horizontal tank are visible southwest of the Maintenance Shed. Staining is seen adjacent to the eastern side of the horizontal tanks.
BURIAL CELLS UNIT	Four probable injection well caps (not annotated) are visible. One probable trench is visible.
S1	Grading is visible in this area.

SEPTEMBER 15, 1980 (FIGURE 4)

A new trailer is visible in the Administration Building area.

Annotation	Description
P1	Turbid liquid is visible in the pond.
P2	**P2** is made up of two interconnected impounded areas. Liquid is visible in both impoundments. A drainage channel with liquid extends from Pad 4A into the northern impoundment of **P2**.
P3	Liquid is visible in the pond.
P4	Liquid is visible in the pond.
P5	Material from **SL1** is graded into future **P5**. The graded material is probable sludge with areas containing liquid.
P6	Liquid is visible in the pond. **S1** surrounds the pond and the pond probably receives material from the **S1**.
P7	Pond contains turbid liquid. Drainage channels are seen in the northern portion of the pond.
P8	Liquid is visible in the pond. A probable outfall pipe is seen in the northwestern corner of the pond. A pipe (not annotated) is noted adjacent to the southern side of the pond.

SEPTEMBER 15, 1980 (FIGURE 4) cont'd.

P9	Liquid is visible in the pond. A possible outfall (not annotated) is visible in the northeastern portion of the pond. **PT** has been graded into the northwestern portion of **P9**. This graded material contains brown material.
P10	Liquid is visible in the pond. A pipe (not annotated) leads to a white object (not annotated) near the northeastern portion of the pond.
P11	Liquid is visible in the pond. Drainage channels lead from the access road (not annotated) to the north into the pond. Liquid from **SL1** is seen adjacent to the northern edge of the access road.
P12	Liquid is visible in the pond.
P13	Liquid and vegetation are visible in the pond.
P14	Liquid and brown material are visible in the pond. A dumping area remains visible near the southeastern berm of the pond; however vegetation is seen on all the berm of the pond this year.
P15	Small amount of probable liquid or staining is visible in the pond southwest of a pipe (not annotated). Light-colored material and staining are also visible in this pond.
P16	The pond contains light-colored material or sludge and liquid. A drainage pathway connects **P16** to the vicinity of **PD**. Graders (not annotated) are seen north of the pond.
P17	Liquid is visible in the pond.
P18	Liquid is visible in the pond. Probable grading is seen in the northern portion of the pond.
P19	Liquid is visible in the pond. Drainage from Pad 10A joins the pond. Liquid or staining and white and gray material or sludge are visible in the northern portion of this area.
PA-1	Grading is visible in this vicinity.
PA-6	Grading is visible in this vicinity.
PA	Liquid is visible in the pond. Dark-toned liquid and staining or material are visible on the northern berm.
PB	Liquid is visible in the pond. Dark-toned liquid and staining or material are visible on the northern berm emanating from a pipe.
PC	Liquid is visible in the pond. Dark-toned liquid or material is visible on the northern berm. Brown material is seen in the northern portion of the pond.
PD	The pond contains white and gray material or sludge. A drainage channel beginning at **P16** is seen west of the pond. Two tanker trucks are backed up to a dumping area at the northeast corner of the pond.
PE	Red/brown turbid liquid is visible in the pond.
PJ	Liquid is visible in the pond.

SEPTEMBER 15, 1980 (FIGURE 4) cont'd.

PL	Liquid is visible in the pond. Light-toned material is visible in the northern portion. A drainage channel enters the pond from **PD**. Gray material is noted on the surface of the pond.
PM	Liquid is visible in the pond. Dark-toned liquid or staining is visible in the northern portion of the pond near the northern berm.
PP	Liquid is visible in the pond. A probable dumping area is seen on the east side of the northern berm.
PR	The pond contains liquid. Brown material is seen on the western berm near a dumping area. An impoundment is seen to the south. This impoundment is connected by a drainage channel to **PR** in future years.
PS	Liquid is visible in the pond. A drainage channel remains visible and extends from near the oil recovery unit into the northern portion of **PS**.
PT	A fill area with staining is visible. An outfall (OF) pipe is noted at the northern edge of the pond.
PV	Liquid is visible in the pond. Fill areas extend into the northern and western portions of the pond.
PAD 4A	An impoundment containing areas of dark-colored material or staining and possible liquid remains in this location. The pad drains to **P2**.
PAD 8A	Staining and a pipe are visible on the pad.
PAD 8C	Grading is seen in this vicinity.
PAD 10B	A graded area is visible in this vicinity.
PAD 10C	A graded area is visible on the pad.
PAD 10E	A graded area and probable staining are visible on this pad.
PAD 10F	A graded area and probable staining are visible on this pad.
PAD 10G	A graded area and probable staining are visible on this pad.
SL1	Two impoundments are visible. White-colored sludge, brown material or sludge, and liquid are visible in the northern impounded area. The southwest impoundment contains liquid and light-colored material or sludge, and is probably connected to the northern impoundment by a drainage channel. A tanker truck is backed up to the northeastern berm of the impoundment.
MAINTENANCE SHED AREA	Two horizontal tanks and one probable horizontal tank remain visible to the south of the Maintenance Shed. A vertical tank remains visible to the northwest. A new trailer is seen adjacent to the maintenance shed.
PCB LF	An excavated area is visible at the landfill. Box-shaped containers are seen at the fill face.
PESTICIDES/ SOLVENTS LF	Approximately 60 drums are seen at the fill face. A ground scar (GS) is seen in the northern portion of this area.
HEAVY METALS LF	An impoundment is visible around graded areas (not annotated). Refuse (RF) is seen near the impoundment.
CAUSTIC CYANIDE LF	Continued excavating and filling.

SEPTEMBER 15, 1980 (FIGURE 4) cont'd.

ACIDS LF	Probable staining is noted on a graded area seen in this vicinity.
BURIAL CELLS UNIT	A probable trench is visible in this area. Seven probable injection well caps (not annotated) are visible in this area.
RCRA CANYON	Two excavations are seen in the northern portion of this area. Several ground scars (three of which are annotated) are visible throughout the entire RCRA Canyon area.
S1	Two impoundments and one probable impoundment are seen here. The northwestern impoundment contains liquid, light-colored material, and brown material. The northeastern impoundment contains brown material. Liquid (LQ) is seen south of the two northern impoundments. Gray and white colored material with possible staining is seen in and around the probable impoundment.
S2	A tanker truck is seen in this area at the top of a hill. Probable gray and brown material is seen on the hill below the truck.
S3	A possible impoundment with liquid or staining is visible.
S4	A ground scar with possible staining is visible.
S5	Not visible.
S6	Not visible.

June 18, 1981 (Figure 5)

Staining is seen on an access road in the western portion of the site between P17 and PE and PJ and on both sides of P10. Two vertical tanks remain on a hill in the northwestern portion of the site. A trailer at the administration building area has been removed.

Annotation	Description
P1	Liquid is visible in the pond.
P2	Liquid is visible in the pond. A drainage channel with liquid extends from Pad 4A into the northern portion of **P2**. (**P2** is made up of two impounded areas.
P3	Liquid is visible in the pond.
P4	Liquid is visible in the pond.
P5	Liquid is visible in the pond.
P6	Liquid is visible in the pond. Light-toned fill material from **S1** extends into the northeastern portion of the pond.
P7	The pond contains liquid. The pond receives drainage from the north near the Pesticides/Solvents Landfill.
P8	Liquid is visible in the pond. Dark-toned material or staining is visible on the northern berm of the pond.

JUNE 18, 1981 (FIGURE 5) cont'd.

P9	Liquid is visible in the pond.
P10	Liquid is visible in the pond.
P11	Liquid is visible in the pond.
P12	Liquid is visible in the pond.
P13	Liquid is visible in the pond.
P14	Liquid is visible in the pond. A probable dumping area is seen at the southeast berm.
P15	Small amount of possible liquid is visible in the pond. It cannot be determined whether the pipe is still present.
P16	The pond contains light-toned and medium-toned material or sludge. A drainage pathway connects **P16** to **PD**.
P17	Liquid is visible in the pond. A possible outfall pipe is visible in the northwestern corner of the pond.
P18	Two areas containing liquid are visible in the pond. Probable grading is seen in the northern portion of the pond.
P19	Liquid is visible in the pond. The northern portion of this area contains light- and medium-toned material (not annotated).
P20	A graded area is visible with a trench and three possible trenches.
P23	Not visible.
PA-1	A ground scar is visible in this vicinity.
PA-2	A ground scar is visible in this vicinity.
PA-3	A ground scar is visible in this vicinity.
PA-4	A ground scar is visible in this vicinity.
PA-5	A ground scar is visible in this vicinity.
PA-6	A ground scar is visible in this vicinity.
PA	Liquid is visible in the pond. Dark-toned liquid and staining or material are visible on the northern berm.
PB	Liquid is visible in the pond. Dark-toned liquid and staining or material are visible on the northern berm.
PC	Liquid is visible in the pond. Dark-toned liquid or material is visible on the northern berm.
PD	The pond contains light-toned material or sludge.
PE	Liquid is visible in the pond.
PJ	Liquid is visible in the pond.
PL	Liquid is visible in the southern portion of the pond. Light-toned material or sludge is visible in the northern portion. A drainage channel enters the pond from near **PD**.
PM	Liquid is visible in the pond. Dark-toned liquid or staining is visible in the northern portion of the pond near the northern berm. A stained area extends south from the southwest portion of the pond toward **P3**.

JUNE 18, 1981 (FIGURE 5) cont'd.

PP	Liquid is visible in the pond. Dumping areas are visible in the eastern part of the northern berm and at the southeast corner of the pond.
PR	The pond now consists of two areas linked by a probable drainage channel. The northern part contains liquid and the southern part contains light-toned material or sludge.
PS	Liquid is visible in the pond. A drainage channel remains visible and extends from near the oil recovery unit east into the northern portion of **PS**.
PT	A fill area with staining is visible.
PV	Liquid is visible in the pond. Fill areas extend into the northern and western portions of the pond. An impoundment is seen north of the pond, created by the northern fill area.
PAD 4A	An impoundment containing areas dark-colored material or staining and possible liquid remains in this location. The pad drains to **P2**.
PAD 8A	Graded.
PAD 10B	Possible staining is visible on this pad.
PAD 10C	Staining and a ground scar are visible on the pad.
PAD 10E	Probable staining and a ground scar are visible on this pad.
PAD 10F	Probable staining is visible on this pad.
PAD 10G	Probable staining is visible on this pad.
SL1	Light-toned sludge is visible in an impounded area in the northern portion of this area. Two other impounded areas are seen to the southwest. The northern one contains liquid and light-toned material. The southern one contains turbid liquid. Another impounded area farther to the south contains light-toned material or sludge.
MAINTENANCE SHED AREA	A vertical tank remains visible northwest of the Maintenance Shed. A trailer is also seen north of the shed. It cannot be determined whether the two probable horizontal tanks and one probable horizontal tank remain in this year of photography.
PCB LF	An excavated area is visible at the landfill. No other activity can be resolved.
PESTICIDES/ SOLVENTS LF	A pit with probable liquid is visible in the southern portion of the landfill. A probable tank trailer is seen backed up to the pit.
HEAVY METALS LF	Graded are visible.
CAUSTIC/ CYANIDE LF	excavating and filling continue northward.
ACIDS LF	Graded fill material is noted near the fill face.
Burial Cells Unit	Ground scars are seen in this area.
RCRA CANYON	A ground scar or excavation is seen in the RCRA Canyon area.

JUNE 18, 1981 (FIGURE 5) cont'd.

S1	Three impoundments are visible and contain light-toned material or sludge. The southernmost impoundment also contains liquid or staining.
S2	Light-toned material seen below access road on side of hill.
S3	A fill area with liquid and staining on it is seen on the side of the hill.
S4	Possible light-toned material is seen below an access road.
S5	Not visible.
S6	Not visible.

December 16, 1981 (Figure 6)

A graded area is seen east of the Acids Landfill. Two horizontal tanks remain on the hill in the northern portion of the site. Staining is seen on an access road west of the Acids Landfill.

Annotation	***Description***
P1	Liquid is visible in the pond. The pond receives drainage from a drainage channel that extends to the northwest.
P2	**P2** is made up of two impounded areas, which are connected by a drainage channel. Liquid is visible in both impounded areas. A drainage channel extends from Pad 4A into the northern impoundment.
P3	Liquid is visible in the pond. A probable outfall from a pipe is seen in the northwestern corner of the pond. An outfall pipe from **PM** is seen on the northern edge of the pond. Another pipe is seen along the eastern edge of the pond and likely connects the pond to **P4**. A probable pipe is seen at the southern edge of the pond.
P4	Liquid is visible in the pond. Piping parallels most of the edge of the pond. A probable outfall from **P9** is seen along the northern edge. A pipe is seen perpendicular to the southern edge of the pond.
P5	Liquid is visible in the pond. Three outfall pipes are visible on the northern berm of the pond. Light-colored mounded material extends into the northeastern portion of the pond.
P6	Liquid is visible in the pond. A drainage channel beginning at Pad 10B and 10C leads to the pond from under a road. A pipe from **P19** is seen north of the pond. **S1** is seen on the eastern and western sides of the pond. The eastern portion of **S1** is graded and drainages lead from it to the pond. The western side of **S1** does not appear to be draining in to the pond.

DECEMBER 16, 1981 (FIGURE 6) cont'd.

P7	The pond contains liquid. Light-colored material is seen in the northern portion of the pond. A drainage channel leads to the area of liquid from the north.
P8	Liquid is visible in the pond. An outfall pipe is seen along the northern edge of the pond. Another pipe is seen in on the southern edge of the pond, possibly connecting the pond to **P10**.
P9	Liquid and light-toned material (from nearby grading) is seen in the pond. Small drainages that begin at **PV** enter the pond.
P10	Liquid is visible in the pond. A pipe is seen in the northeastern portion of the pond. The pipe is connected to a circular object (not annotated) in the pond, and to another object (not annotated) at the southern terminus of the pipe. Another pipe and the beginning of a possible underground drainage channel are seen in the southern portion of the pond.
P11	Liquid is visible in the pond. A pipe is seen on the southwestern corner of the pond. An outfall pipe is seen at the head of a drainage channel along the eastern edge of the pond.
P12	Liquid is visible in the pond. A long pipe is seen east of the pond and extends to the north. This pipe enters the ground east of the pond.
P13	Liquid is visible in the pond. A pipe leads to an access road west of the pond from the north. A vehicle is seen on the access road. Another pipe is also seen in this vicinity. The access road extends into the western portion of the pond. Another pipe leads to a drainage leading into the northeastern portion of the pond.
P14	Reddish/brown turbid liquid and dark-colored material are visible in this pond. An outfall pipe is seen in the northeastern corner of the pond. A probable dumping area is noted at the southeast corner of the pond.
P15	An outfall pipe is seen on the northeastern corner of the pond. Light-colored material or sludge and liquid are seen in the pond.
P16	Liquid and gray and white material are visible in the pond. Staining is seen on the northern berm of the pond. A channel through a removed portion of the berm between Pond 16 and **PD** allows for drainage to travel from **P16** to **PD**.
P17	Liquid is visible in the pond. A pipe is seen in the southern portion of the pond. Liquid is visible in the pond. A drainage channel enters the northwestern portion of the pond.
P18	The pond is graded and contains possible staining. Staining is also visible along the access road east of the pond.
P19	Liquid is visible in the pond. Drainage channels lead to the northern portion of the pond. A drainage channel in the northwest contains reddish/brown liquid. An outfall pipe is seen at the head of the drainage channel in the northeastern corner.
P20	The area is excavated for a future pond.

DECEMBER 16, 1981 (FIGURE 6) cont'd.

PA-1	The area is excavated for a future pond. Contains small amount of liquid.
PA-2	The area is excavated for a future pond. Contains small amount of liquid.
PA-3	The area is excavated for a future pond.
PA-4	Active grading for future pond is noted.
PA-5	Pond partially graded for future use.
PA-6	Pond not visible. This area serves as a parking area.
PA	Liquid is visible in the pond. Liquid is being discharged from a pipe (not annotated) on the northern berm. A pipe is also seen on the southern edge of this pond.
PB	The contents of the pond have been removed and the pond bottom is graded. A pipe (not annotated) is visible in the southern portion of the pond bottom. Staining or dark-colored material and light colored material are visible on the northern berm.
PC	A pipe (not annotated) is discharging liquid onto the northern berm of the pond. A pipe (not annotated) also borders the eastern edge of the pond. The pond contains liquid. Light- and dark-colored material are seen in the northern portion of the pond near the discharge point.
PD	The pond contains light-, dark-, and brown materials or sludge. Gray material or sludge is seen at the terminus of a drainage that enters from **P16**. An outfall pipe is visible on the northern berm of the pond. The pipe probably continues under the road to the north where construction of ongoing on a pipeline. A tanker truck is backed up to the northern berm.
PE	Liquid is visible in the pond. An outfall pipe is visible in the northwestern corner of the pond.
PJ	Liquid is visible in the pond. A drainage channel leads to the pond from the north.
PL	Liquid is visible in the southern portion of the pond. Multi-colored material or sludge is visible in the northern portion. Two pipes empty into a drainage channel which enters the pond. The pipes are probably connected to **PD**.
PM	Light-colored and brown material are visible in the pond. Liquid is also noted in the pond. Outfall pipes are visible in drainages that lead to the northern portion of the pond.
PP	Liquid is visible in the pond, most of which is turbid and green. An bulldozer (not annotated) is seen north of the pond near the dumping area. An outfall pipe is visible at the north end of the pond. Another dumping area is noted at the southwestern berm.

DECEMBER 16, 1981 (FIGURE 6) cont'd.

PR	Contents removed. Light-colored material is seen on the western berm of the pond. Dark-colored material is seen west of the pond. A pipe (not annotated) is seen in the western berm of the pond. The southern portion of **PR** has been filled.
PS	Liquid is visible in the pond. A drainage channel remains visible and extends from near the oil recovery unit to the east and into the northern portion of **PS**. Another drainage channel enters the pond from the north.
PT	Material (not annotated) has been graded into the pond from near the oil recovery unit. The pond contains gray material or sludge and areas of liquid (some of it turbid). The southern berm of the pond is being graded. The graded material is heavily stained.
PV	Liquid is visible in the pond. A graded fill area (not annotated) from **PT** extends into the western portion of the pond. A pool of orange liquid is draining to the pond from the north. Another impoundment is seen to the north of the pond.
PAD 1A	Pad is graded.
PAD 4A	Pad is vegetated.
PAD 7A	**SL1** currently visible in this area.
PAD 10A	Not visible.
PAD 10B	No activity other than that associated with Pad 10C is observed.
PAD 10C	Pad contains piping, which is spraying liquid. Light-colored material is visible on the pad. Staining is also noted on the pad.
PAD 10E	Pipes, liquid, staining, and light-colored material are seen on the pad. Drainage from the pad flows south to an underground culvert that most likely empties in a pipe seen northwest of **P19**.
PAD 10F	Staining is noted around pipes, which are spraying liquid. Drainage channels containing liquid lead to the south.
PAD 10G	Staining is noted around pipes, which are spraying liquid. Drainage channels containing liquid lead to the south.
SL1	Light-colored sludge is visible in an impoundment in the northern portion of this area. Two other impoundments are observed to the southwest. The northern one contains light-colored sludge. The southern one contains turbid red/brown liquid. An excavation is noted in an area farther to the south contains light-toned material or sludge.
MAINTENANCE SHED AREA	A tank trailer with staining adjacent to it is visible southeast of the maintenance shed. Additional staining is noted to the west. A trailer remains visible north of the shed. A vertical tank remains visible northwest of the shed.
PCB LF	No active waste disposal is noted.

DECEMBER 16, 1981 (FIGURE 6) cont'd.

PESTICIDES/ SOLVENTS LF	Approximately 300 drums are visible at the fill face. A linear slightly bermed area of medium-toned material is seen south of the landfill. A linear area of medium-toned material (the clay barrier) is seen south of the landfill.
HEAVY METALS LF	Liquid and staining originating from **S3** drains through this area. Some of the liquid is in an impoundment (seen previously). The liquid drains south where it joins drainage from Pad 10E. Approximately six drums are visible at the fill face of the landfill.
CAUSTIC/ CYANIDE LF	Approximately 20 drums are visible at the fill face of the landfill. Drainage from **S2** enters the northern portion of the landfill.
ACIDS LF	Approximately 150 drums are visible at the fill face of the landfill.
Burial Cells Unit	Eight well caps are seen in this area.
RCRA CANYON AREA	Two ground scars are visible in the northern portion of this area.
S1	The area east of **P6** is graded and does not appear to contain waste materials. Three impoundments containing light-colored material or sludge are visible in the area west of **P6**. Both of the northern impoundments drain to the southern one.
S2	A graded fill area is observed on the side of the hill. Liquid seen along an access road up gradient from the fill area. Some of the liquid drains down gradient towards the Caustic/Cyanide Landfill.
S3	Liquid is seen in a fill area on the side of a hill. The fill area contains dark-colored material. Staining is seen on an access road north of the fill area (up gradient). Another access road on a fill area is seen on the hill to the northeast.
S4	Light-toned material is seen on the hill down gradient from an access road.

June 2, 1982 (Figure 7)

A ground scar is visible north of the primary access road I the southeast portion of the site.

Annotation	***Description***
P1	Liquid is visible in the pond. The pond receives drainage from a drainage channel that enters from the northwest. A pipe (not annotated) leads from the east to this pond. A pipe (not annotated) is also seen on the western berm.
P2	**P2** is made up of two impounded areas, which are connected by a drainage channel. Liquid is visible in both impounded areas. A drainage channel extends from Pad 4A into the northern impoundment. A probable outfall from a pipe into the drainage channel is noted north of the pond. The drainage channel contains pooled liquid.

P3	Liquid is visible in the pond. A possible outfall (not annotated) is seen on the eastern edge of the pond. An outfall from a pipe is seen northwest of the pond. A pipe is seen at the southern edge of the pond.
P4	Green liquid is visible in the pond. Piping parallels part of the northern and southern portions of the pond. A plume of liquid is seen emanating from the pipe along the northern edge of the pond. An outfall from **P9** is seen along the northern edge of the pond. A pipe (not annotated) is seen perpendicular the southern edge of the pond.
P5	Turbid green liquid is visible in the pond. A plume from a pipe spraying liquid is visible east of the pond. Liquid and staining from the spraying are seen east of the pond, and liquid flows into drainage channels which lead to the pond. Two possible outfall pipes (not annotated) remain visible northeast of the pond.
P6	Liquid is visible in the pond. Two outfalls are seen at the pond. The northern outfall probably originates from a pipe connected under an access road to **P19**. **S1** is seen on the eastern and western sides of the pond. **S1** is stained and graded. No visible drainage channels are seen leading from the spreading areas toward the pond.
P7	Pond contains liquid. Light-colored material is seen in the northern portion of the pond. A drainage channel flows through the light-colored material. This drainage channel probably originates from an outfall in the northern portion of the pond. Another drainage channel is seen along the eastern edge of the pond. This one also originates from a possible outfall.
P8	Liquid is visible in the pond. Two outfalls are seen along the northern edge of the pond. A pipe is seen in on the southern edge of the pond.
P9	A drainage channel (possibly an outfall from **PV**) is seen in the northeast corner of the pond. A pipe is visible on the southern edge of the pond. This pipe probably leads under an access road to an outfall pipe seen in **P4**. A fill area extends into the northwest portion of the pond.
P10	Liquid is visible in the pond. A pipe is seen in the northeastern potion of the pond. The pipe is connected to a circular object in the bottom of the pond, possibly continues under the pond. A probable outfall is seen in the northern portion of the pond. It is possibly connected to a pipe at the bottom of **P8**.
P11	Liquid is visible in the pond. A drainage channel south of an outfall pipe is seen in the northwestern corner of the pond. A pipe is seen on the southwestern corner of the site. A drainage channel is seen on the eastern edge of the pond. An outfall pipe is seen at the head of this drainage channel. Another pipe is seen along the eastern edge of the pond and probably connects to a pipe seen in **P12**.
P12	Liquid is visible in the pond. A pipe is seen on the western edge of the pond and is probably connected to a pipe seen in **P11**.

JUNE 2, 1982 (FIGURE 7) cont'd.

P13	Liquid is visible in the pond. An access road leads to this pond. A vehicle (V) is seen on the access road. Piping (not annotated) is seen near the vehicle.
P14	Two possible and one probable outfall pipes are visible in this pond. The pond contains liquid, some of which is turbid and light-colored. An access road from **PD** leads to the dumping area in the southeast corner of the pond.
P15	An outfall pipe is seen on the northeastern corner of the pond. Light-colored material and liquid are seen in the pond. Liquid and staining are seen southwest of the outfall pipe.
P16	Liquid and gray and white material are visible in the pond. A tanker truck is seen backed up to the northern berm of the pond. A drainage channel leads from the pond to **PD**.
P17	Liquid is visible in the pond. A pipe is seen in the southern portion of the pond. Three drainage channels lead into the pond.
P18	Liquid is visible in the pond. Light-colored material or sludge is visible on the northern berm and extends into the pond.
P19	Liquid is visible in the pond. Drainage channels lead from outfall pipes to the northern portion of the pond.
P20	The pond contains liquid, some of which is brown. Pond also contains light-colored material or sludge. A pipe extends into this pond. The pipe surrounds the western side of the pond and leads to the north.
P23	Not visible.
PA-1	The pond contains liquid. A pipe (not annotated) is seen in the eastern portion of this pond.
PA-2	The pond contains liquid. A pipe (not annotated) is seen in the western portion of this pond.
PA-3	The pond contains liquid. A pipe (not annotated) is seen in the eastern portion of this pond.
PA-4	The pond contains liquid. A pipe (not annotated) is seen in the eastern portion of this pond.
PA-5	The pond contains liquid. Drainage leads to this pond from the north.
PA-6	The pond is not visible.
PA	Liquid is visible in the pond. Liquid is being discharged from a pipe (not annotated) on the northern berm. A tanker truck is noted north of the pond.
PB	Liquid is visible in the pond. Staining is visible on the northern berm.
PC	Gray and brown material is visible on the northern berm of the pond. Gray, white, and brown material are visible in the northern portion of the pond. The remainder of the pond contains liquid.

JUNE 2, 1982 (FIGURE 7) cont'd.

PD	Multi-colored material or sludge is visible in the pond. Some of the material originated from a drainage channel created by a removed section of a berm between this pond and **P16**.
PE	Liquid is visible in the pond. Most of the liquid is brown/green and turbid. An outfall pipe is visible in the northwestern corner of the pond.
PJ	Liquid is visible in the pond. A drainage channel leads to the pond from the north.
PL	Liquid is visible in the southern portion of the pond. Gray and light-colored material or sludge is visible in the northern portion. An outfall pipe empties into a drainage channel, which enters the pond. The pipes are probably connected to **PD**.
PM	Liquid is visible in the pond. An outfall pipe is visible at the head of a drainage that leads to the northern portion of the pond.
PP	Liquid is visible in the pond, some of which is brown/green and turbid. An access road dips into the southern portion of the pond and liquid is pooled on it. This is a probable dumping area. The road continues to **P14**. A dumping area with a bulldozer is seen near the northeast corner of the pond.
PR	The pond contains liquid. Light-toned mounded material is seen at the bottom of the dumping area.
PS	Liquid is visible in the pond. A drainage channel remains visible and extends from near the oil recovery unit to the east and into the northern portion of **PS**. Two other drainage channels enter the pond from the north.
PT	The pond contains multi-toned material and areas of liquid (some of it turbid and brown). The pond is currently being graded with fill materials. Some of the graded material extends into **PV**.
PV	Liquid is visible in the pond. A graded fill area from **PT** extends into the western portion of the pond. A pool of orange liquid draining to the pond from the north. Another impoundment with turbid brown liquid is seen to the north of the pond.
PAD 1A	The pad is graded.
PAD 4A	The pad is vegetated.
PAD 7A	The pad is graded.
PAD 10B	The pad has no activity other than that associated with Pad 10C. This area is mostly vegetated.
PAD 10C	The pad contains piping. Staining is noted on the pad.
PAD 10E	Pipes and light-colored material are seen on the pad. Liquid is seen in drainage channels surrounding the pad, which lead down gradient to the south.
PAD 10F	Staining is noted around pipes, which are spraying liquid. Drainage channels containing liquid lead to the south.

JUNE 2, 1982 (FIGURE 7) cont'd.

PAD 10G	Staining is noted around pipes, which are spraying liquid. Drainage channels containing liquid lead to the south.
SL1	Light-colored sludge is visible in an impoundment in the northern portion of this area. A tanker truck is backed up to the northeastern berm of the pond. This impoundment has expanded and incorporated the two impoundments previously seen to the southwest.
MAINTENANCE SHED AREA	A trailer is seen north and south of the Maintenance Shed Building. A graded area, vertical tank, and a possible horizontal tank are seen to the north. Drums (not annotated) are being stored adjacent to the north side of the maintenance shed.
PCB LF	No active waste disposal is noted. An excavation is seen north of the landfill. This area is probably being excavated for fill material in the landfill.
PESTICIDES/ SOLVENTS LF	Approximately 250 drums are visible at the fill face; some are partially covered with fill material. Active grading is seen in the landfill. Liquid and staining are noted on the landfill.
HEAVY METALS LF	Approximately 30 drums are seen at the fill face; some are partially covered with fill material. Active grading is seen in the landfill. Liquid and staining are noted in a graded area in the northeastern corner of the landfill.
CAUSTIC/ CYANIDE LF	Approximately 20 drums are visible at the fill face of the landfill.
ACIDS LF	Approximately 20 drums are visible at the fill face of the landfill. Liquid and staining are noted in the eastern portion of the landfill.
BURIAL CELLS UNIT	Five probable well caps are seen in this area. Liquid and staining are seen in the northern portion of this area.
RCRA CANYON	Erosion gullies remain visible in the northern portion of this area.
RCRA Landfill	No activity is notes here that is not related to **S6**.
S1	The area east of **P6** is graded stained. Three impoundments containing light-colored material or sludge are visible in the area west of **P6**. Both of the northern impoundments drain to the southern one.
S2	This area contains three terraces of light-colored fill material with graded areas on them. The graded areas contain liquid. This liquid appears to have been dumped from the perimeter road that surrounds the site. Light-colored material and staining are seen south of the perimeter road.
S3	This area contains a large terrace with light-colored fill material. The terrace is graded and contains liquid. This liquid appears to have been dumped from the perimeter road that surrounds the site. Light-colored material and staining are seen south of the perimeter road.
S4	Light-toned material and liquid are seen on the hill below a perimeter road surrounding the site. Drainage from the spreading area flows to the Pesticides/Solvents Landfill.

S6	This area is being excavated and filled to create terraces for future disposal.
LIQUIDS TREATMENT AREA	Graded areas and open storage of probable construction materials visible.

October 6, 1983 (Figure 8)

A third, smaller vertical tank is now visible on the hill in the northern portion of the site. A graded area is seen in the southwestern portion of the site at the future transportation yard.

Annotation	***Description***
P1	Liquid is visible in the pond.
P2	The pond is graded and contains liquid and staining in the graded areas. A large amount of liquid remains.
P3	Liquid is visible in the pond. An outfall is seen on the northern edge of the pond.
P4	Liquid is visible in the pond. An outfall is seen on the northern edge of the pond.
P5	Liquid is visible in the pond. Light-toned material is visible in the northeastern corner of the pond.
P6	Liquid and light-colored material are visible in the pond. **S1** is seen on the eastern and western sides of the pond. **S1** contains liquid and dark-colored staining and is in the process of being graded. Drainage channels are seen leading from **S1** toward the pond.
P7	Pond contains green liquid. Light-colored material is seen in the northern portion of the pond. A drainage channel flows through the light-colored material.
P8	Liquid is visible in the pond. Two outfalls are seen along the northern edge of the pond. The eastern outfall is emanating light-colored liquid or material. A pipe (not annotated) is also seen along the southern edge of the pond.
P9	The pond contains liquid. A pipe (not annotated) surrounds the northern and western portions of the pond. Staining and liquid flow patterns are visible south of the length of the pipe along the northern boundary of the pond. A drainage pathway is seen in the northeast corner of the site.
P10	Liquid is visible in the pond. Two light-colored objects are visible in the pond. Outfalls are seen in the northern and the southern portion of the pond.

OCTOBER 6, 1983 (FIGURE 8) cont'd.

P11	Liquid is visible in the pond. An outfall and a probable outfall are noted in the eastern portion of the pond.
P12	Liquid is visible in the pond. A drainage channel north of the pond extends south toward the pond.
P13	Liquid is visible in the pond. A possible outfall pipe is seen in the northern portion of the pond.
P14	Liquid is visible in the pond. Three outfalls pipes are noted along the northern edge of the pond. An access road enters the southern portion of the pond. This area probably serves as a dumping area.
P15	Light-colored material and liquid are seen in the pond. Some of the liquid is brown.
P16	Liquid and gray and white material are visible in the pond. A pad with staining on it is seen north of the pond. A drainage channel leads form the pond to **PD**.
P17	Green liquid is visible in the pond. A pipe (not annotated) is seen in the southern portion of the pond.
P18	Liquid is visible in the pond. Multi-colored material or sludge is visible on the northern berm and washout pad and extends into the pond.
P19	Liquid is visible in the pond. An outfall pipe is seen in the northeastern corner of the pond.
P20	The pond contains liquid. A drainage channel leads to this pond from the north.
P22	Turbid liquid is visible in the pond. This pond is currently being graded.
P23	An area has been excavated in preparation for this pond.
PA-1	The pond contains liquid.
PA-2	The pond contains liquid.
PA-3	The pond contains liquid. Two pipes and two drainages are noted adjacent to this pond.
PA-4	The pond contains liquid. Two outfalls are seen in the eastern portion of this pond.
PA-5	The pond contains liquid. Drainage leads to this pond from the north where the 1983 Spray Area is located. Two pipes that begin in the eastern portion of the 1983 Spray Area lead to this pond.
PA-6	Liquid is visible in the pond.
PA	Liquid is visible in the pond. Liquid is being discharged from a pipe (not annotated) on the northern berm. Staining is also visible on this berm.
PB	Liquid is visible in the pond. Staining is visible on the northern berm.
PC	The pond contains liquid. Gray and brown material or liquid is visible on the northern berm of the pond.
PD	Multi-colored material or sludge is visible in the pond. Some of the material originated from a drainage channel from **P16**.

OCTOBER 6, 1983 (FIGURE 8) cont'd.

PE	Liquid is visible in the pond. A probable outfall pipe is visible in the northwestern corner of the pond.
PJ	Liquid is visible in the pond. A drainage channel leads to the pond from the north.
PL	Liquid is visible in the southern portion of the pond. Gray and light-colored material or sludge is visible in the northern portion. An outfall pipe empties into a drainage channel, which enters the pond. The pipe is probably connected to **PD**.
PM	Liquid is visible in the pond. Staining is seen along drainage channels at the northwestern corner of the pond.
PP	Liquid is visible in the pond. The access road seen previously in the southern portion of the pod is inundated with liquid.
PR	Liquid is visible in the pond. A tanker truck is seen to the west.
PS	Turbid liquid is visible in the pond. A drainage channel remains visible and extends from near the oil recovery unit to the east and into the northern portion of **PS**. Another drainage channel with liquid or staining in it enters the pond from the north.
PT	The pond contains multi-toned material and areas of liquid (some of it turbid and brown). The pond is currently being graded with fill materials. The fill materials contain liquid and staining. Some of the graded material extends into **PV**.
PV	Liquid is visible in the pond. A graded fill area from **PT** extends into the western portion of the pond. An impoundment with liquid is seen to the north of the pond.
PAD 1A	The pad contains liquid and staining.
PAD 4A	The pPad is graded and contains possible staining, likely from **P2**.
PAD 7A	The pad is graded.
PAD 10B	Two impoundments with liquid are seen here. These impoundments receive liquid from Pad 10C.
PAD 10C	Piping, staining and light-toned material are noted on the pad.
PAD 10E	An impoundment containing liquid is seen here.
PAD 10F	The pad is graded.
PAD 10G	The pad is graded.
1983 Spray Area	Circular areas containing staining are seen in this area.
SL1	Liquid and multi-colored sludge and material are visible in an impoundment.
Maintenance Shed Area	Drums (not annotated) are being stored adjacent to the north side of the Maintenance Shed. The vertical tank seen previously is seen lying on the ground horizontally north of the maintenance shed. Staining is noted to the north, south, and southeast of the Maintenance Shed.

OCTOBER 6, 1983 (FIGURE 8) cont'd.

PCB LF	Additional fill material has been added to the landfill. Approximately five drums are seen at the fill face in the landfill. More material has been excavated from the area to the north of the landfill.
PESTICIDES/ SOLVENTS LF	Approximately 60 drums are visible at the fill face.
HEAVY METALS LF	Approximately 20 drums are seen at the fill face. Active grading is seen in the landfill. Liquid and staining are noted on the landfill.
CAUSTIC/ CYANIDE LF	Approximately 20 drums are visible at the fill face of the landfill. Graded stained areas are visible on the surface of the landfill. The staining probably originates from drainage from S2.
ACIDS LF	Approximately 50 drums are visible at the fill face of the landfill.
Burial Cells Unit	An excavation for **P23** has been constructed in the Burial Cells Unit area.
RCRA Landfill	A possible excavation is observed in the RCRA Canyon/Landfill Area. This activity could be related to the Spreading Areas. Due to the fact that stereo imagery was not available, it could not be determined whether this is positively an excavation.
S1	The area east of **P6** is graded and stained. Three impoundments containing light-colored material or sludge are visible in the area west of **P6**. Both of the northern impoundments drain to the southern one. The southern impoundment also contains gray liquid.
S2	Staining and multi-colored material is seen downhill from the perimeter road. Flow pattern staining extends downhill towards the Cyanide/ Caustic Landfill.
S3	Two areas of liquid or staining are south of the perimeter road. Flow pattern staining extends downhill from the road.
S4	Light-toned material is seen on the hill below the perimeter road. Drainage from the Spreading Area flows to the Pesticides/Solvents Landfill.
S5	Three terraces (fill areas) with liquid and staining are seen on the side of RCRA Canyon. The southernmost impoundment contains the most liquid. Active grading is seen in the two northern impoundments.
S6	Heavy staining and liquid are seen south of the perimeter road. Some of the liquid is in a drainage channel at the bottom of RCRA Canyon, which drains to **PA-5**. Staining is also seen on the north side of the perimeter road in the eastern portion of this area.
Liquids Treatment Area	Liquid Treatment Building is visible surrounded by a paved parking lot. A vertical tank is visible north of the Liquids Treatment Building. Four vertical tanks are seen in a group to the east of the building. An access road that surrounds this area is stained.

November 22, 1988 (Figure 9)

The site now appears to be in the process of remediation. Most of the ponds and pads are graded and the contents removed.

Annotation	Description
P1	The pond is backfilled.
P2	The contents are removed and the pond is graded. A trench is visible inside of excavation. Small pool of liquid or staining is seen in the northern portion.
P3	The contents are removed and pond is graded. Two small pools of liquid observed inside.
P4	The contents are removed and pond is graded. Staining over most of the area of former pond.
P5	Graded and probably filled. An access road has been constructed on a fill area through the former pond.
P6	The contents removed and pond is graded. An access road has been constructed on a fill area through the former pond.
P7	The contents removed and pond is graded.
P8	The contents removed and pond is graded.
P9	Most contents of the pond are removed. A stained graded area is visible. Small amount of pooled liquid is noted.
P10	Partially graded. Contains ponded liquid in southern portion.
P11	The contents are removed and pond is graded. A trench is seen at the bottom of the excavation.
P12	The contents are removed and pond is graded, probably filled with road constructed through it. Currently being used as a parking area.
P13	The contents are removed and pond is graded. Ponded liquid and staining are visible in the graded area. A vertical tank is seen east of the pond.
P14	The contents are removed and pond is graded. Vehicles and small amount of liquid and staining in the graded area.
P15	The contents are removed and pod is graded. Staining is seen in this vicinity.
P16	The contents are removed and pond is graded.
P17	The contents are removed and pond is graded.
P18	The contents are removed and pond is graded. A small amount of liquid or light-toned material is seen in the southern portion of the former pond.
P19	The contents are removed and pond is graded. Dark-toned material or staining is noted in the graded area.

NOVEMBER 22, 1988 (FIGURE 9) cont'd.

P20	The contents are removed and pond is graded.
P22	The contents are removed and pond is graded.
P23	The pond contains vegetation, dark- and light- colored material. Piping (not annotated) is noted on the ground adjacent to northeastern side.
PA-1	Most contents removed and pond is graded. Staining seen in several areas. Some liquid remains in eastern area.
PA-2	Most contents removed and pond is graded. However, liquid and staining still seen in bottom of excavated area, The berm between **PA-2** and **PA-3** has been removed.
PA-3	Some grading is visible, but ponded liquid is still visible in the pond. The berm between **PA-2** and **PA-3** has been removed.
PA-4	The contents are removed and the pond is graded. Trench with liquid seen in excavated area.
PA-5	The contents are removed and the pond is graded.
PA	The contents are removed and the pond is graded.
PB	The contents are removed and the pond is graded.
PC	The contents are removed and the pond is graded. Small amount of liquid or staining is visible in the bottom of the excavated area.
PD	The contents are removed and the pond is graded. Small amount of staining in excavated area.
PE	The contents are removed and the pond is graded.
PJ	The contents are removed and the pond is graded.
PL	The contents are removed and the pond is graded. Small amount of staining seen in excavated area.
PM	The contents are removed and the pond is graded. Staining is noted throughout excavated area, except where covered with graded light-toned material.
PP	The contents are removed and the pond is graded. Vehicles (one with staining adjacent to it) and two horizontal tanks are visible in the excavated area.
PR	The contents are removed and the pond is graded.
PS	The contents are removed and the pond is graded.
PT	The contents are removed and the pond is graded. Staining (not annotated) is noted throughout the excavated area, except where covered with graded light-toned material.
PV	The contents are removed and the pond is graded. Staining is noted in the excavated area.
PAD 1A	Clay liner test pads are seen in this area.
PAD 4A	The contents are removed and the pad is graded. A small amount of staining is visible.
PAD 7A	The contents are removed and the pad is graded.

NOVEMBER 22, 1988 (FIGURE 9) cont'd.

PAD 8A	The contents are removed and the pad is graded.
PAD 8C	The contents are removed and the pad is graded. Parking lot visible in this vicinity.
PAD 9A	The contents are removed and the pad is graded. Possible staining is noted to the south of the pad. Liquid or staining are noted in a drainage channel to the east.
PAD 9B	The contents are removed and the pad is graded. Possible staining (not annotated) seen.
PAD 10A	The contents are removed and the pad is graded. Staining is noted on the graded soil.
PAD 10B	The contents are removed and the pad is graded.
PAD 10C	The contents are removed and the pad is graded.
PAD 10E	The contents are removed and the pad is graded.
PAD 10F	The contents are removed and the pad is graded.
PAD 10G	The contents are removed and the pad is graded.
SL1	Contents are removed and area is graded. Dark-toned material (not annotated) is seen in the excavation.
SL2	Contents are removed and area is graded.
PCB LF	Landfill is inactive and covered.
PESTICIDES/ SOLVENTS LF	Refuse containing possible drums seen at fill face. Mounded material seen in western portion.
HEAVY METALS LF	Light-colored refuse, graded dark-toned material, and mounded material are observed.
CAUSTIC/ CYANIDE LF	Inactive and covered.
ACIDS LF	Inactive and covered.
RCRA LF	Inactive and covered.
S1	Graded
S2	Not visible. The Heavy Metals Landfill has expanded into this area.
S3	Graded.
S4	Graded.
S5	Two impoundments are seen in the southern portion of this area. The southern impoundment contains liquid. The northern impoundment contains staining or dark-colored material.
S6	Liquid and staining are seen in one area in the northeastern portion of this area. Liquid flow patterns remain below the access road that surrounds this area; however no additional staining is observed.
LIQUIDS TREATMENT AREA	The CNS building is visible to the north of the Liquids Treatment Building. Staining is seen south of the CNS Building. Six vertical tanks are seen to the east of the Liquids Treatment Building. Five more tanks are seen adjacent to the building to the north and northeast.

GLOSSARY

Access Road – A paved or unpaved route of vehicular access.

Building (B) – A relatively permanent, essentially boxlike construction having a roof.

Container (C) – Any portable device, in which material is stored, transported, handled, or disposed.

Dark, Medium, Light-Colored (DC, MC, LC) – Colors of features in question is compared with the darkest and lightest tones of color (if using color photography) on the print.

Dark, Medium, Light-Toned (DK, MT, LT) – Tones of features in question are compared with the darkest and lightest tones of gray (if using B&W photography) on the print.

Drainage – A man-made or altered draining route.

Drums (D) – Metal cylinders used for the storage, transportation, or disposal of materials.

Excavation (EX) – An area where earth or other material is being removed in order to alter the ground level (e.g., building construction).

Face – The wall or slope of a mine, extraction, excavation, landfill, or fill area at which work is progressing (i.e., working face, fill face).

Feature Boundary – Used to delineate the extent of a feature or area (e.g., tank farm, trench, large stain, open storage area).

Fill Area (FA) – An area where material is being deposited to fill a depression; or area where materials have been added, altering the elevation of the ground surface.

Graded Area (GR) – An area where the surface of the ground has been leveled or altered by a vehicle pulling or pushing a wide blade.

Ground Scar (GS) – An area of bare soil, apparently the result of human activity.

Horizontal Tank (HT) – see Tanks.

Impoundment (IM) – A liquid containment area that appears to be related to activity on a site.

Landfill (LF) – A disposal facility that intermittently employs a cover material.

Liquid (LQ) – Used when discussing impoundments, lagoons, catchments basins, features or areas that contain a liquid or when discussing discharge from outfalls, at storm drains, or from tank trucks.

Material (M) – Raw or waste materials on or in the vicinity of the site.

Mounded Material (MM) – Piles of raw or waste materials on or in the vicinity of the site.

Object (O) – Anything that is visible or tangible and stable in form.

Open Storage Area (OS) – An area of open-air (outdoor) storage of containerized raw or waste materials, within industrial or manufacturing sites.

Outfall (OF) – The place where an effluent is discharged into the environment.

Pond (P) – a liquid containment area that is apparently used for waste storage, disposal and/or treatment and may have an artificial barrier or liner to prevent migration of waste material into the soil.

Refuse (RF) – Non-liquid waste materials or discarded items.

Stain (ST) – A residue or discoloration resulting from a spill, discharge, or removed/dispersed materials.

Tanker Truck (TT) – A truck with a tanker vehicle attached to it.

Tanks – Vertical tanks (VT), horizontal tanks (HT), pressure tanks (PT), tank farms, and solid waste management units. A large receptacle, container, or structure for holding liquid or gas.

Trench (TR) – A long, narrow excavation in the ground.

Trailer Truck (TL) – Truck with a large van-type vehicle attached to it.

Trough – A container used to store food to feed farm animals.

Vehicle (V) – A conveyance moving on wheels, runners, etc.

Vertical Tank (VT) – see Tanks.

REFERENCES

Historical Aerial Photographs

DATE	SOURCE/ FLIGHT NUMBER	FRAME	SCALE	FILM COLOR[1]	SOURCE TYPE[2]	COVERAGE TYPE[3]	RESOLUTION	MATERIAL[4]
3-28-56	UCSB MIB/HA-AN	6-103	1"=800'	B/W	POS	FM	Good	Print
6-18-70	UCSB MIB/HB-RF	135-138, 141-144	1"=1000'	B/W	POS	FS	Good	DIAP
5-20-74	UCSB MIB/AF-74-9	278-282, 798-802, 203-206	1"=1200'	B/W	POS	FS	Good	DIAP
6-18-75	PW/5048	4	1"=2000'	CC	POS	FM	Good	DIAP
7-29-77	PW/SM2	9	1"=2000'	CC	POS	FM	Good	DIAP
3-14-78	PW/7301	1, 2	1"=1000'	CC	POS	FS	Good	DIAP
7-18-79	PW/9118	1	1"=130'	CC	POS	FM	Excellent	Print
7-18-79	PW/9118	1	1"=500'	CC	POS	FM	Excellent	DIAP
9-15-80	PW/10708	1	1"=800'	CC	POS	FM	Excellent	DIAP
6-18-81	PW/USDA 615070	61, 62	1"=3333'	B/W	POS	FS	Fair	DIAP
8-25-81	PW/SM3	107-109	1"=2000'	CC	POS	FS	Good	DIAP
12-16-81	EPA/82009	1-7	1"=600'	CC	POS	FS	Excellent	DIAP
6-2-82	PW/13449	1-15	1"=850'	CC	POS	FS	Excellent	DIAP
10-6-83	PW/16566	1	1"=600'	CC	POS	FM	Excellent	DIAP
7-6-84	PW/18505	1	1"=300'	CC	POS	FM	Excellent	Print
7-6-84	PW/18505	1	1"=1000'	CC	POS	FM	Excellent	DIAP
1985/1986	Unknown source	Unknown source	1"=120'	CC	POS	FM	Excellent	Print
4-6-87	PW/26570	9	1"=175'	CC	POS	FM	Excellent	Print
4-6-87	PW/26570	9	1"=2000'	CC	POS	FM	Excellent	DIAP
11-11-88	PW/32356	1	1"=267'	CC	POS	FM	Excellent	Print
11-11-88	PW/32356	1	1"=625'	CC	POS	FM	Excellent	DIAP
11-22-88	INTRA	3537:172, 173	1"=2000'	CC	POS	FS	Excellent	DIAP
7-6-89	PW/SB7		1"=217'	CC	POS	FM	GOOD	Print
7-6-89	PW/SB7	328, 329	1"=2000'	CC	POS	FS	Excellent	DIAP
5-25-90	UCSB MIB/90-084	55	1"=2708'	B/W	POS	FM	Fair	DIAP
1991	UCSB MIB/91-022	1546	1"=5417'	B/W	POS	FM	Poor	DIAP
11-30-92	PW/ C4896-19	3-5	1"=4500'	CC	POS	FS	Good	DIAP
9-15-94	UCSB MIB/NAPP-2nd cyc.	6928: 93, 94	1"=3333'	B/W	POS	FS	Good	DIAP
7-5-97	PW/SB10	401	1"=300'	CC	POS	FM	Good	Print

REFERENCES cont'd.

7-5-97	PW/SB10	401, 402	1"=2000'	CC	POS	FS	Good	DIAP
1-5-98	GS/3335-1	2	1"=300'	CC	POS	FM	Excellent	Print
11-18-98	GS/3648	1	1"=225'	CC	POS	FM	Excellent	Print
12-17-99	GS/4116	S	1"=1000'	CC	POS	FM	Excellent	Print
2-12-02	GS/4850	S	1"=1000'	CC	POS	FM	Excellent	Print

Sources:

EPA	Environmental Protection Agency, Las Vegas, NV
GS	Golden State Aerial Surveys, San Luis Obispo, CA
INTRA	IntraSearch, Denver, CO
PW	Pacific Western Aerial Surveys, Santa Barbara, CA
UCSB MIB	University of California, Santa Barbara Map and Image Library, Santa Barbara, CA

Maps

SOURCE	FIGURE	NAME	SCALE	DATE
USGS[5]	1	Casmalia, California	1:24,000	1982
USGS	1	Guadalupe, California	1:24,000	1982
US EPA Region 9	–[7]	Figure 4-1: Proposed Soil and Sediment Sampling Locations, RI/FS Work Plan, Casmalia Site Remediation	1:7,200	2003
US EPA[6] Region 9	–	Figure A-1: Proposed Soil and Sediment Sampling Locations, RI/FS Work Plan, Casmalia Site Remediation	1:2,550	2003
US EPA Region 9	–	Figure 2-2: Current Site Layout - Casmalia Disposal Site, RI/FS Work Plan, Casmalia Site Remediation	1:6,700	2003
US EPA Region 9	–	Figure 2-3: Current Site Layout - Casmalia Disposal Site, Casmalia Site Remediation	1:6,700	2003
CH2MHill[8]	–	Figure 2-2: Waste Management Units - Casmalia Disposal Site, Casmalia Site Remediation	1:7,200	2003
US EPA Region 9	–	Primary Pond/Pad Uses - Casmalia Disposal Site, Casmalia Site Remediation	1:6,700	2003

[1] Film color:
B/W - Black-and White
CC - conventional Color
[2] Source Type:
POS - Positive
[3] Coverage Type:
F - Full Coverage
M - Monoscopic Coverage
P - Partial Coverage
S - Stereo Coverage
[4] Material:
DIAP - Diapositive
Print - Photographic Print

FIGURE 2
CASMALIA DISPOSAL SITE

JULY 29, 1977
FRAME: 9

APPROX. SCALE 1:6,700
1"=558'

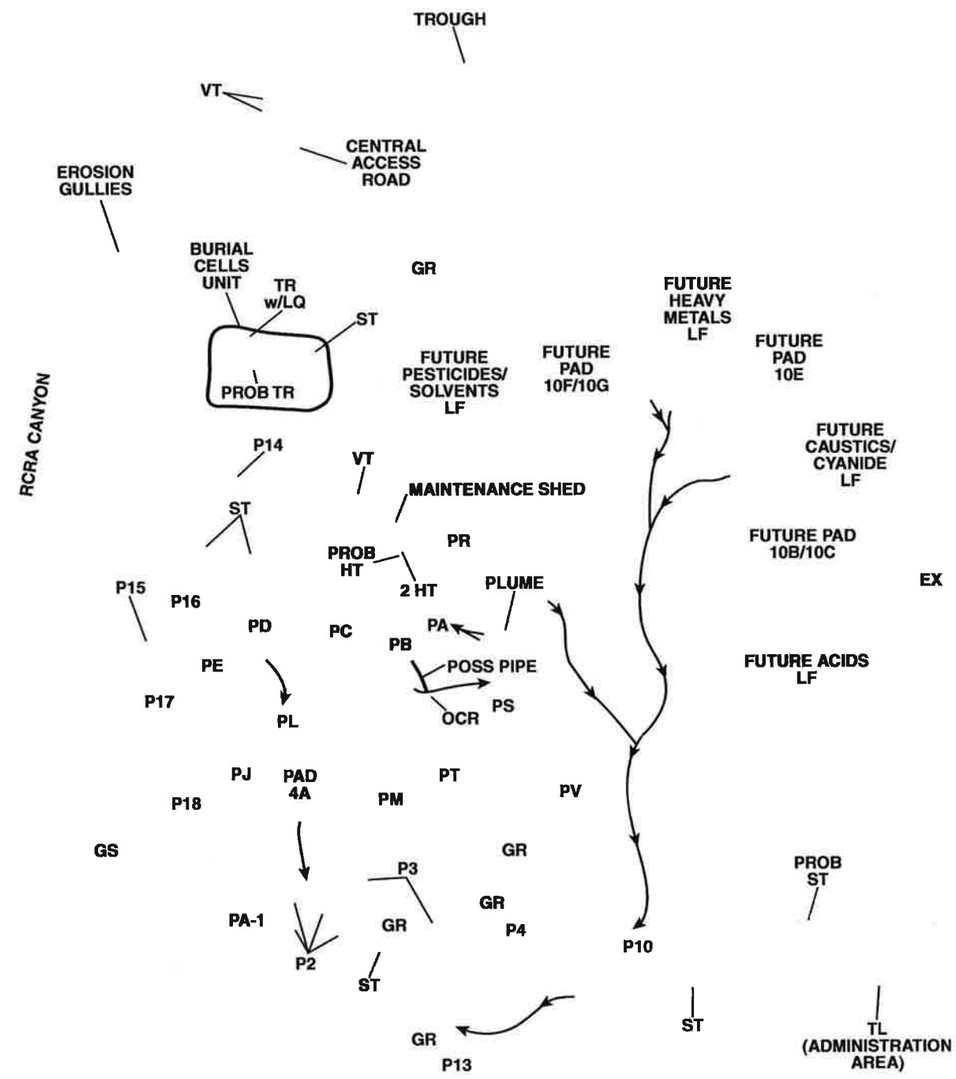


FIGURE 2
CASMALIA DISPOSAL SITE

JULY 29, 1977
FRAME: 9

APPROX. SCALE 1:6,700
1"=558'

FIGURE 3
CASMALIA DISPOSAL SITE

JULY 18, 1979
FRAME: 1

APPROX. SCALE 1:6,500
1"=542'

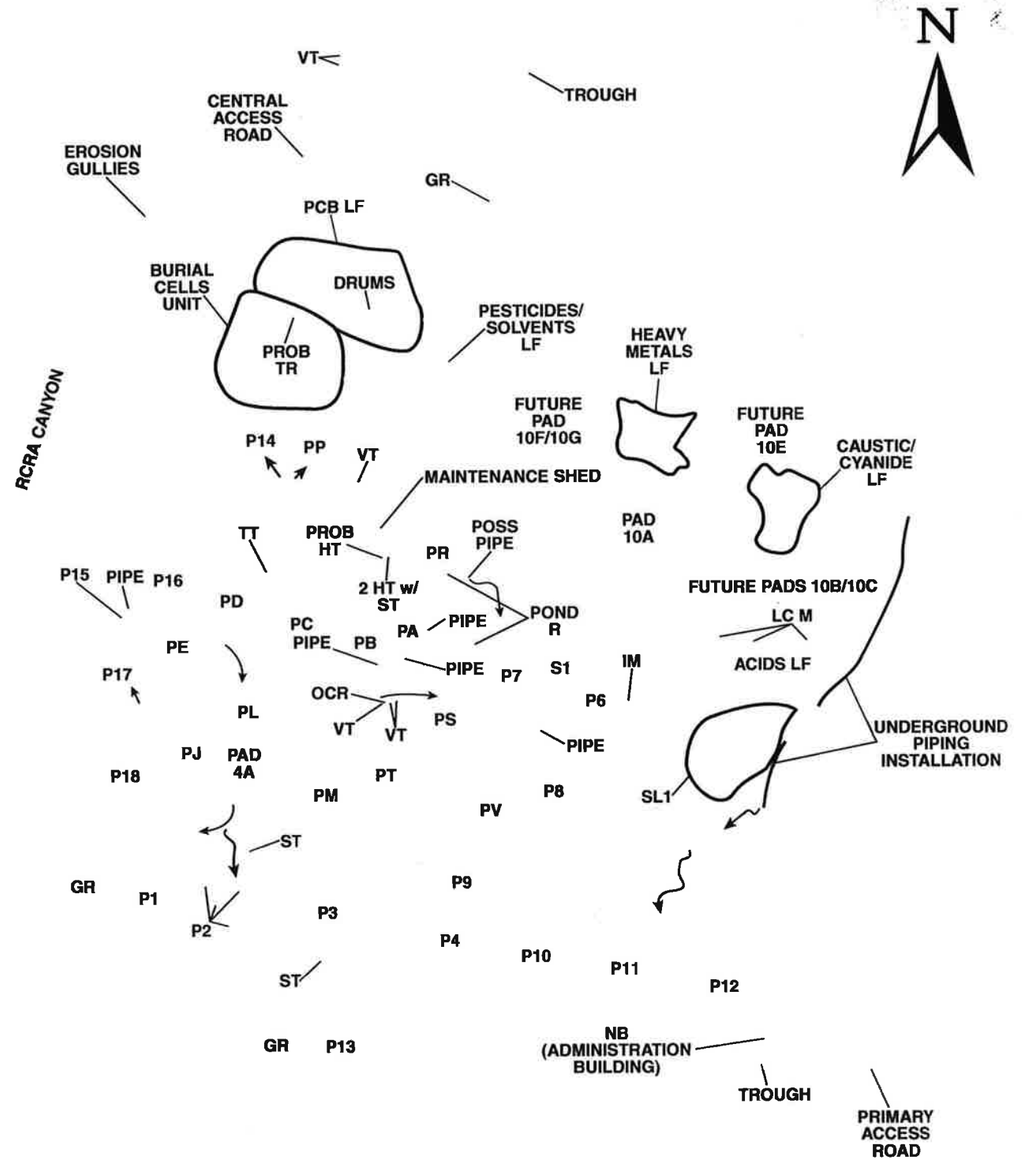


FIGURE 3
CASMALIA DISPOSAL SITE

JULY 18, 1979
FRAME: 1

APPROX. SCALE 1:6,500
1"=542'


7-18-79

FIGURE 4
CASMALIA DISPOSAL SITE

SEPTEMBER 15, 1980
FRAME: 1

APPROX. SCALE 1:6,000
1"=500'

FIGURE 4
CASMALIA DISPOSAL SITE

SEPTEMBER 15, 1980
FRAME: 1

APPROX. SCALE 1:6,000
1"=500'

FIGURE 5
CASMALIA DISPOSAL SITE

JUNE 18, 1981
FRAME: 61

APPROX. SCALE 1:6,000
1"=500'

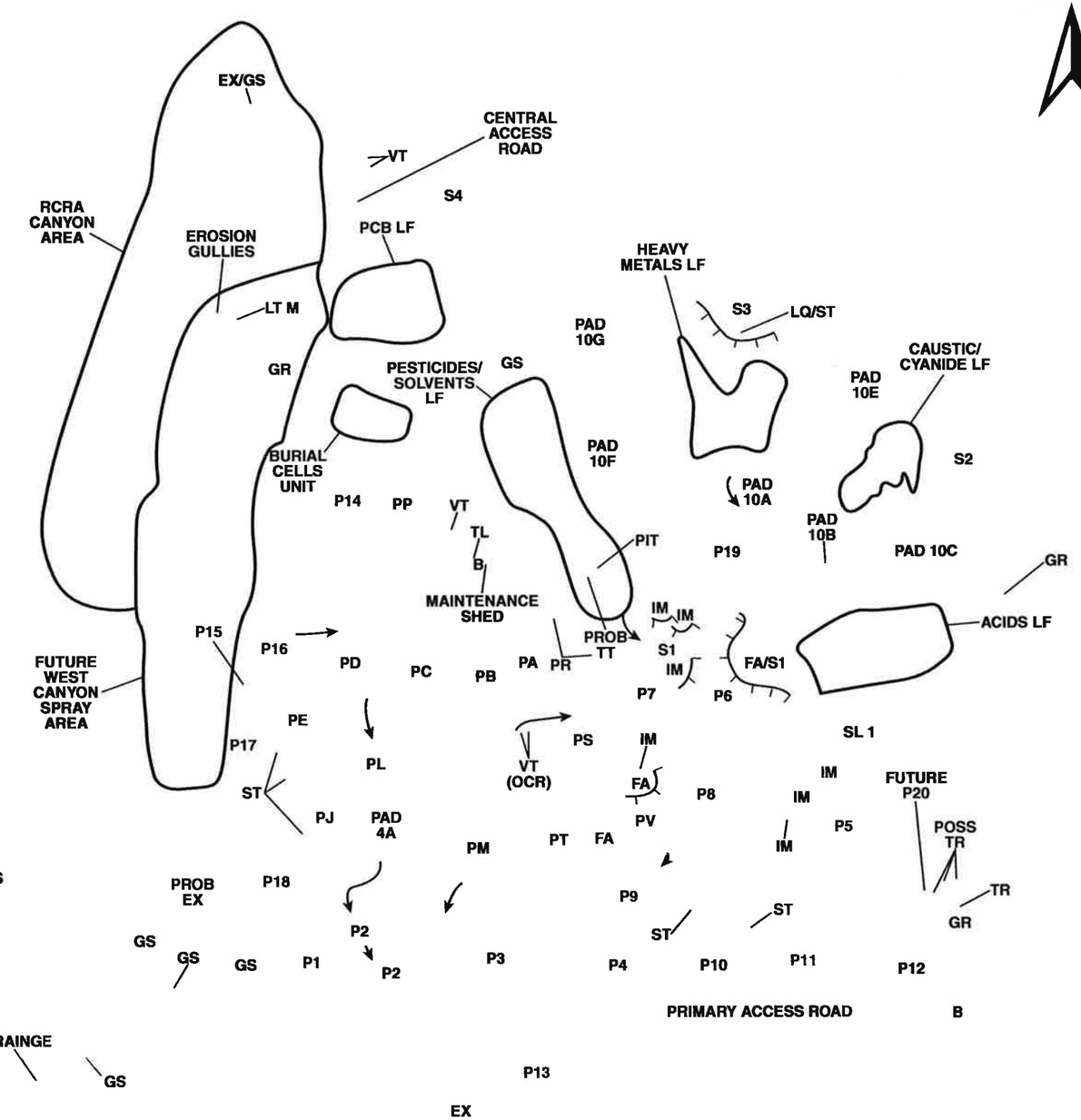


FIGURE 5
CASMALIA DISPOSAL SITE

JUNE 18, 1981
FRAME: 61

APPROX. SCALE 1:6,000
1"=500'

FIGURE 6
CASMALIA DISPOSAL SITE

DECEMBER 16, 1981
FRAME: 6

APPROX. SCALE 1:6,100
1"=508'

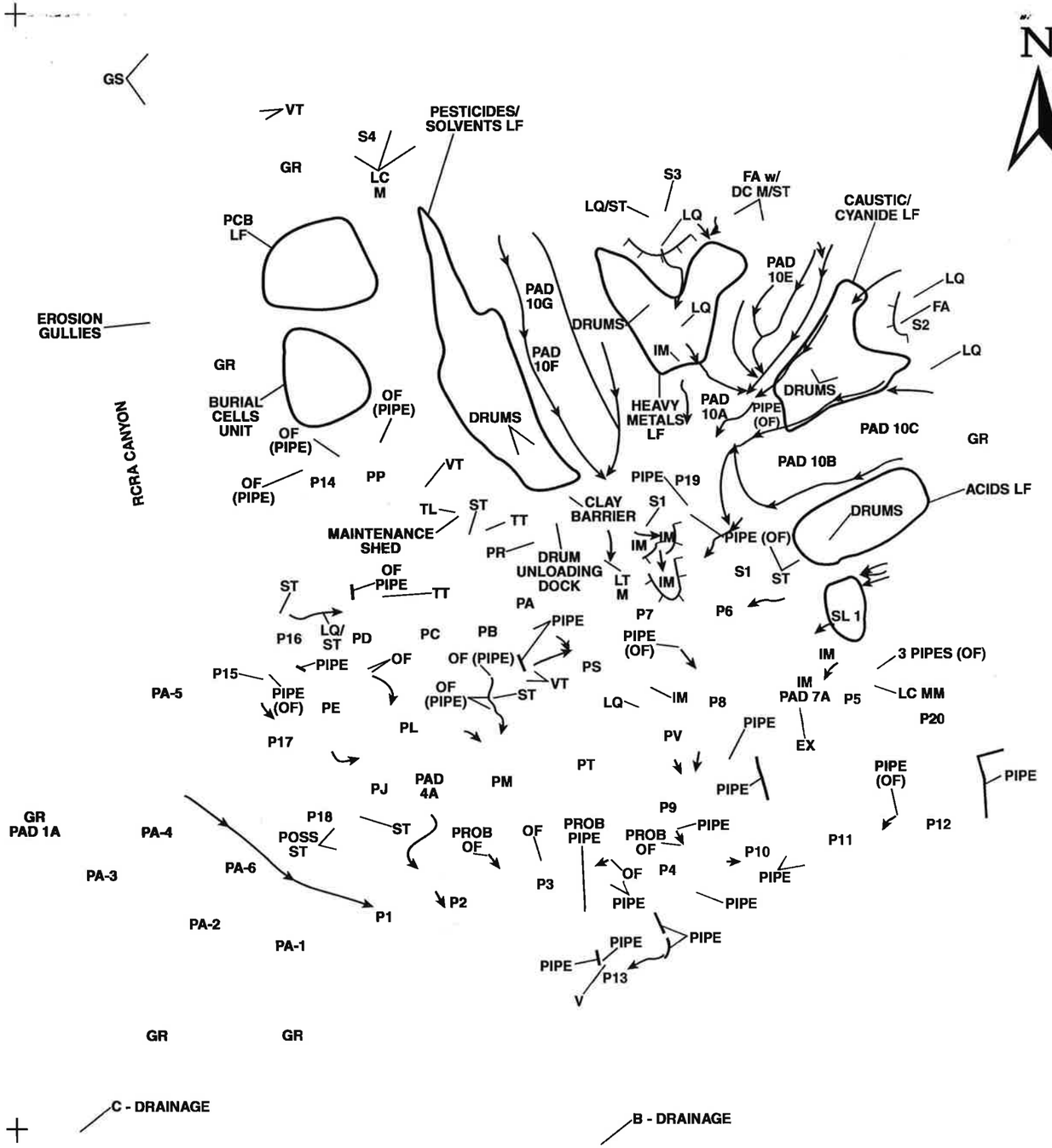


FIGURE 6
CASMALIA DISPOSAL SITE

DECEMBER 16, 1981
FRAME: 6

APPROX. SCALE 1:6,100
1"=508'

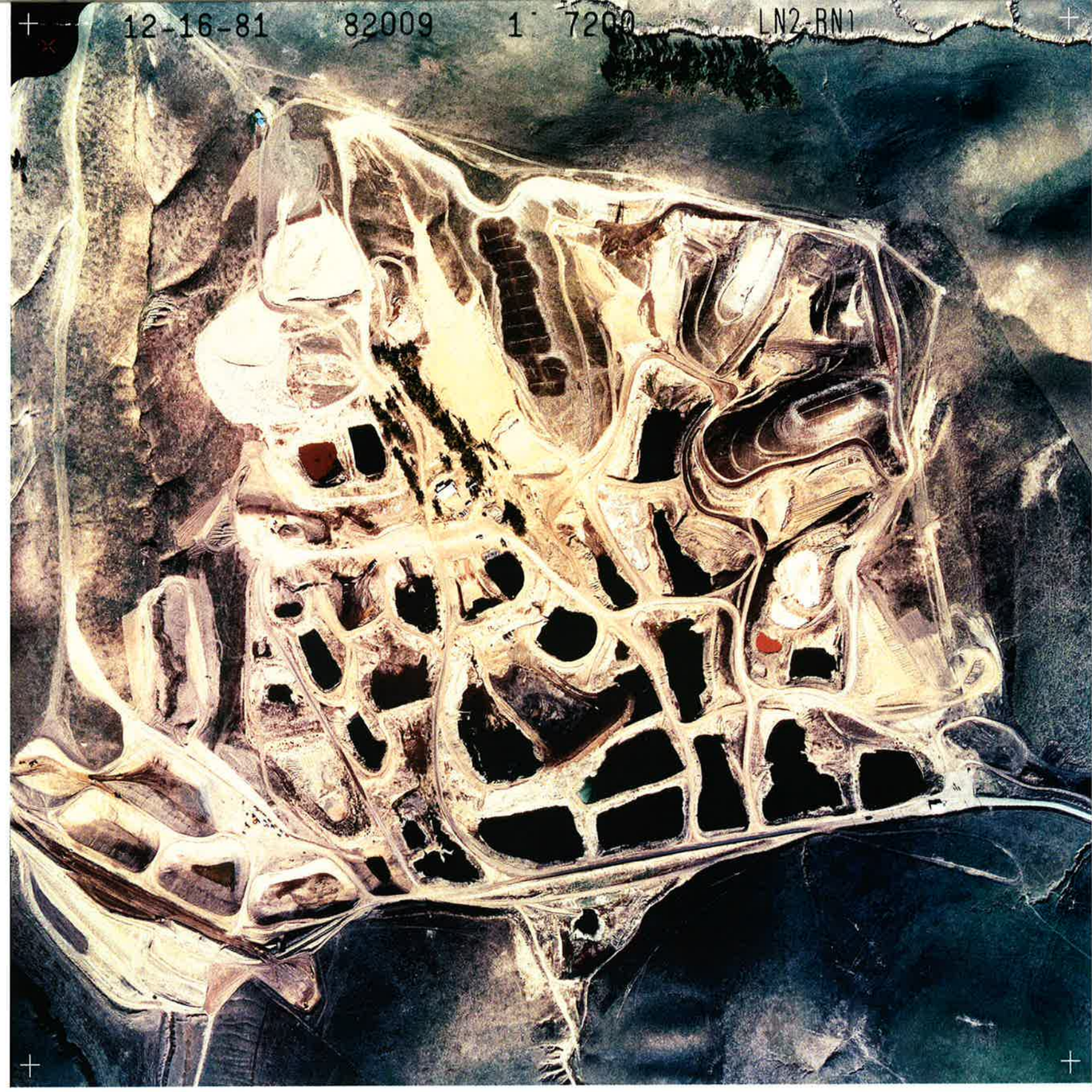

12-16-81 82009 1 7200 LN2-RN1

FIGURE 7
CASMALIA DISPOSAL SITE

JUNE 2, 1982
FRAME: 4

APPROX. SCALE 1:6,600
1"=550'

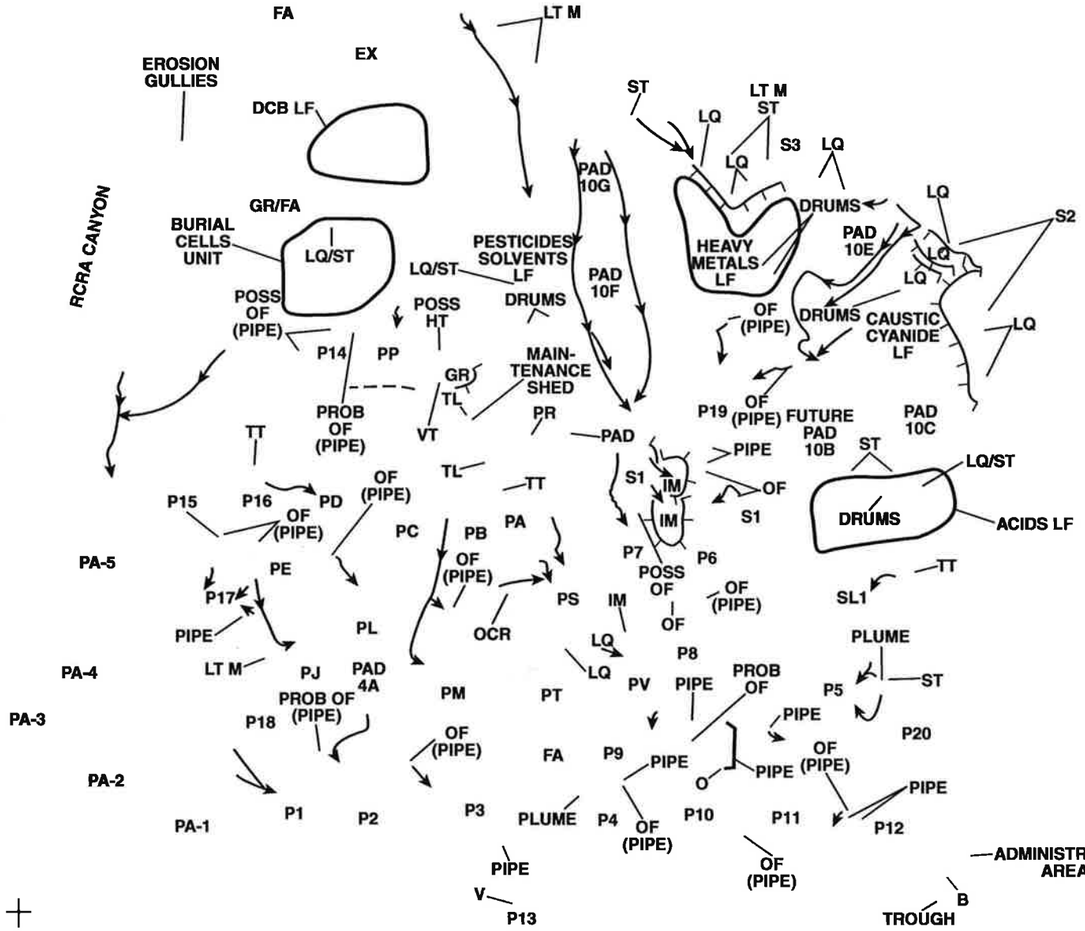


FIGURE 7
CASMALIA DISPOSAL SITE

JUNE 2, 1982
FRAME: 4

APPROX. SCALE 1:6,600
1"=550'

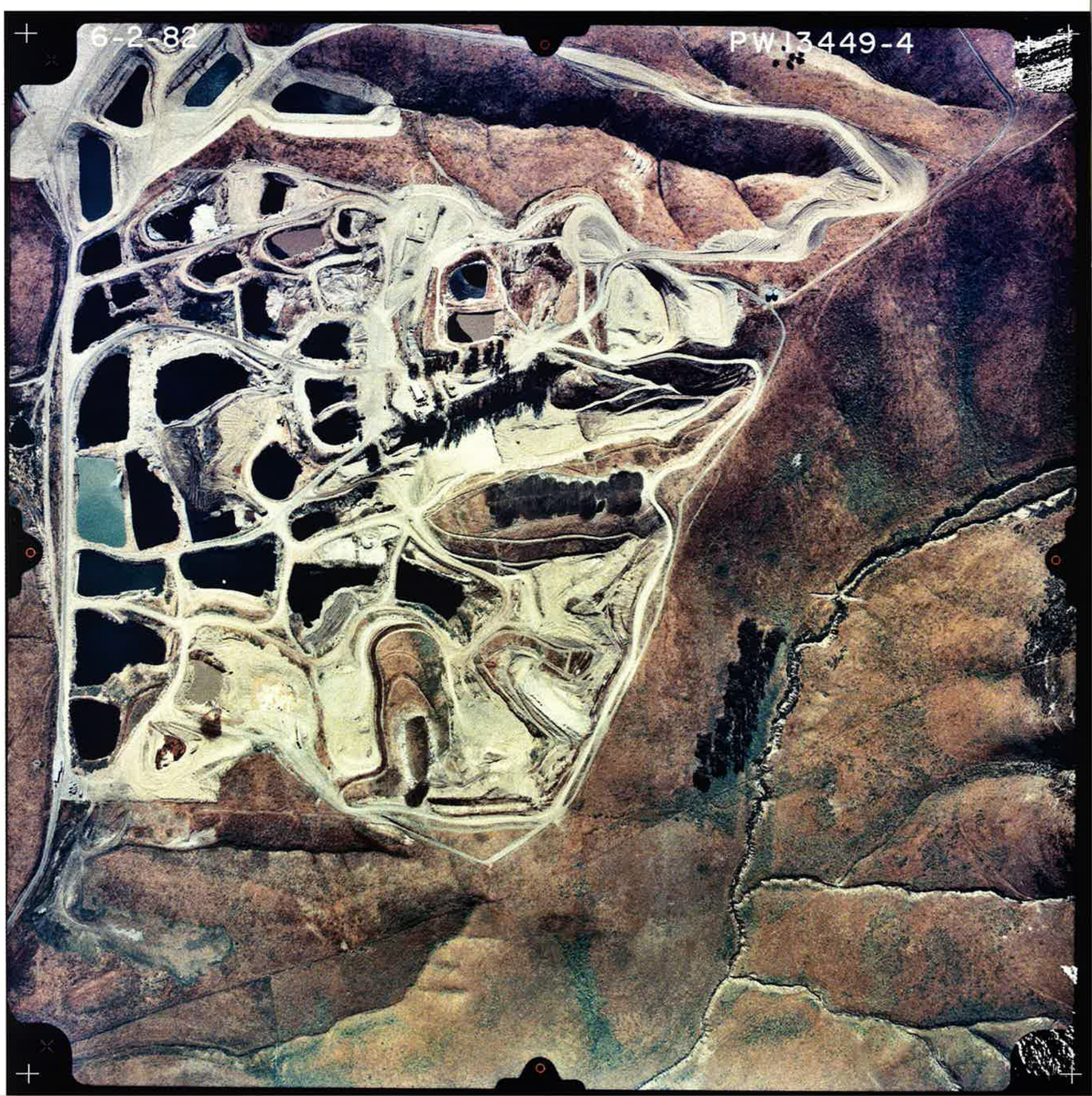

6-2-82
PWJ3449-4

FIGURE 8
CASMALIA DISPOSAL SITE

OCTOBER 6, 1983
FRAME: 1

APPROX. SCALE 1:6,500
1"=542'

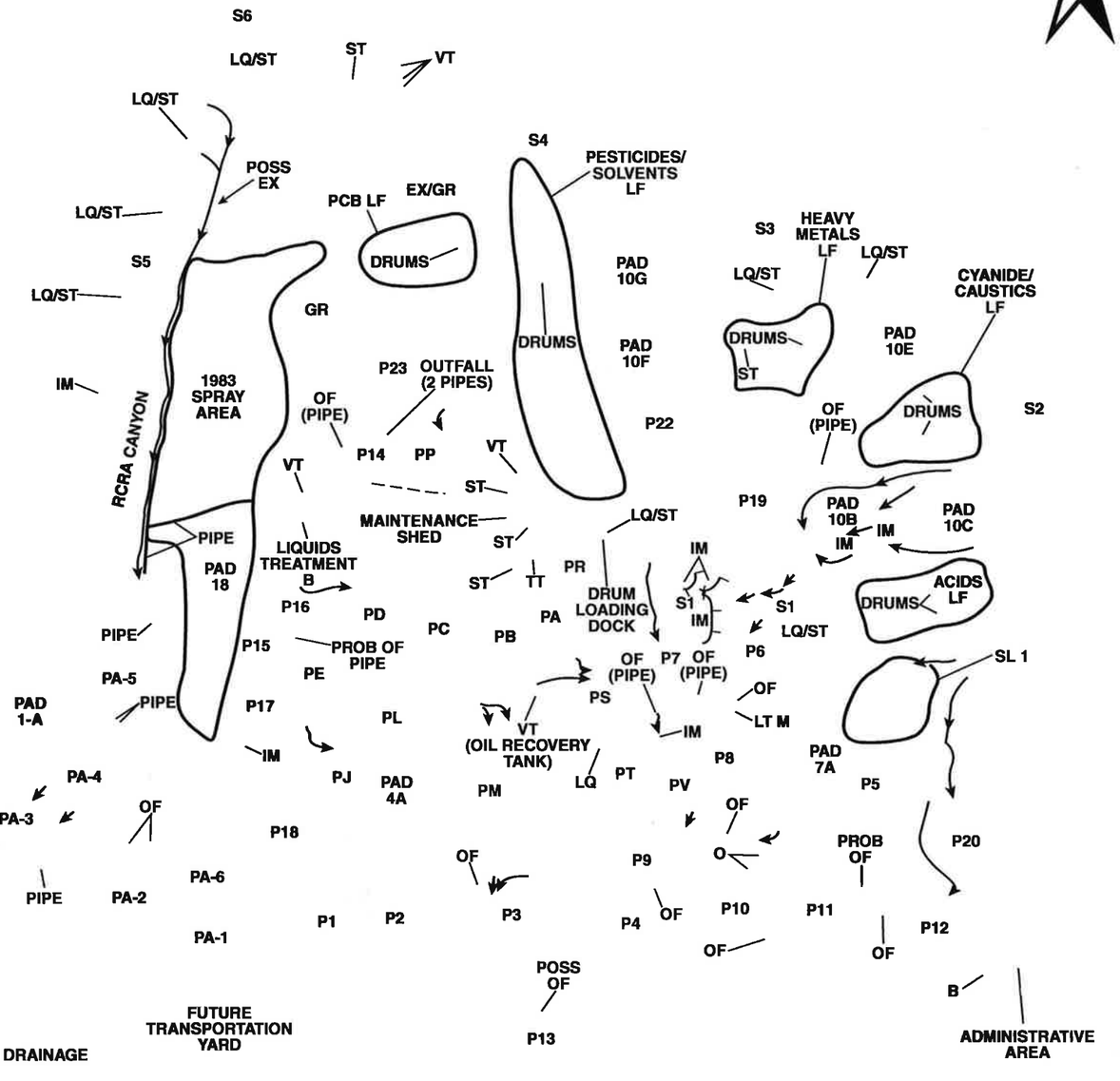


FIGURE 8
CASMALIA DISPOSAL SITE

OCTOBER 6, 1983
FRAME: 1

APPROX. SCALE 1:6,500
1"=542'

FIGURE 9
CASMALIA DISPOSAL SITE

NOVEMBER 22, 1988
FRAME: 172

APPROX. SCALE 1:6,200
1"=516'

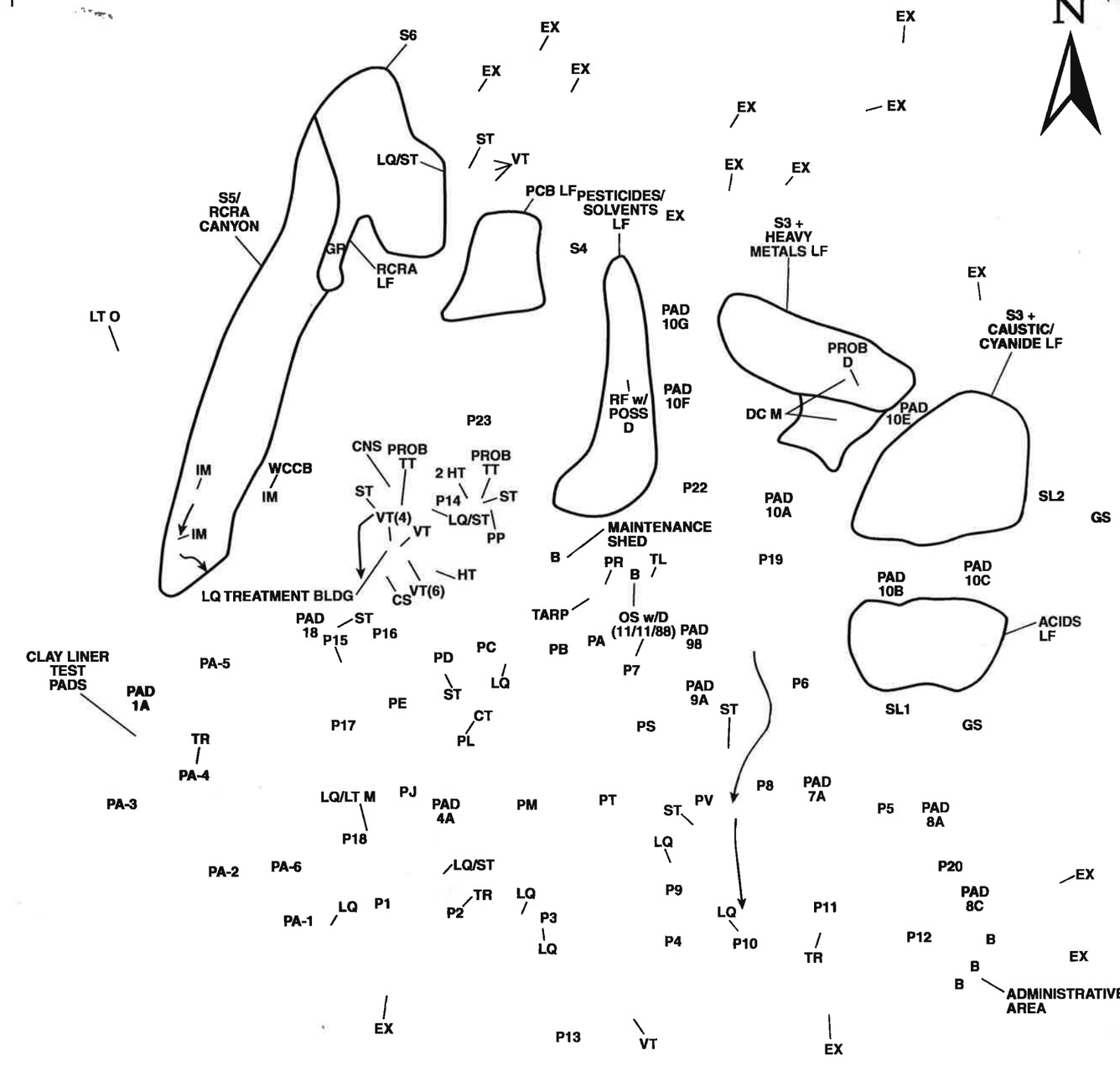


FIGURE 9
CASMALIA DISPOSAL SITE

NOVEMBER 22, 1988
FRAME: 172

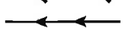
APPROX. SCALE 1:6,200
1"=516'

FOLD-OUT LEGEND

LEGEND OF SYMBOLS
CASMALIA DISPOSAL SITE

B	–	BUILDING
C	–	CONTAINER(S)
D	–	DRUMS
DC	–	DARK-COLORED
EX	–	EXCAVATION
FA	–	FILL AREA
GR	–	GRADED AREA
GS	–	GROUND SCAR
HT	–	HORIZONTAL TANK
IM	–	IMPOUNDMENT
LC	–	LIGHT-COLORED
LF	–	LANDFILL
LQ	–	LIQUID
LT	–	LIGHT-TONED
M	–	MATERIAL
MM	–	MOUNDED MATERIAL
O	–	OBJECT
OF	–	OUTFALL
ORC	–	OIL RECOVERY UNIT
P	–	POND
POSS	–	POSSIBLE
PROB	–	PROBABLE
RF	–	REFUSE
S	–	SPREADING AREA
SL	–	SLUDGE
ST	–	STAIN
TL	–	TRAILER
TR	–	TRENCH
TT	–	TANKER TRUCK
V	–	VEHICLE
VT	–	VERTICAL TANK


– BERM


– DRAINAGE

– FEATURE BOUNDARY