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ARE THE HIGHEST QUALITY AVAILABLE

INITIAL gj DATE 5/6/99

Page numbering sequence in this section is inconsistent. Page number J-314 was inadvertently left out of document numbering sequence. Text is complete.

Project File Number WAG 5

Project/Task WAG 5 Comprehensive RI/FS Operable Unit 5-12

Subtask PBF-30, PBF-31 and PBF-32

**Title:** Track 1 Assessments for the PBF-30, PBF-31 and PBF-32 Tanks

**Summary:** PBF-30, PBF-31 and PBF-32 were added in a new site inclusion forms for Track 1 evaluations to the Federal Facility Agreement and Consent Order negotiated by the Department of Energy, the Environmental Protection Agency, and the Idaho Department of Health and Welfare.

Site PBF-30 is the location of an abandoned septic system southeast of the PBF Reactor building at the northwest corner of Parking Area No. 9. The system includes a 1,000-gal septic tank and subsurface drain field that once serviced a construction building. The construction building was demolished in 1971. Examination of the site found the area of the tank covered by a temporary storage shed. All plumbing to the tank was closed. The tank contents were sampled, and no radioactivity or hazardous substance was detected above action levels.

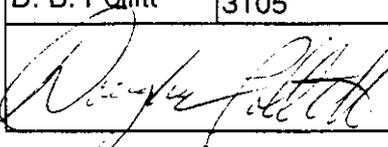
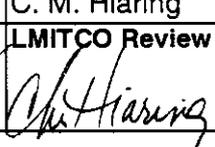
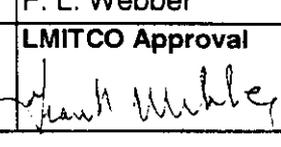
Site PBF-31 is the historical location of a 2,000-gal underground heating oil tank located at the WEDF (SPERT-II). The tank was installed in 1960 and removed and replaced in 1994. During excavation in 1994, it was discovered that the tank had leaked an unknown quantity of fuel oil, which saturated the surrounding soils and penetrated the underlying basalt. All contaminated soils were removed from the site; however, the product released into the underlying basalt layer could not be recovered.

Site PBF-32 is the historical location of a 1,000-gal underground storage tank used to supply heating fuel to the PBF Control Building (PBF-601). The tank was installed in 1954 and removed and replaced in 1994. During excavation in 1994, it was discovered that the tank had leaked an unknown quantity of fuel oil, saturated the surrounding soils, and penetrated the underlying basalt. All contaminated soils were removed from the site. However, the product released into the underlying basalt layer could not be recovered.

Draft Track 1 Decision Documentation Packages addressing PBF-31 and PBF-32 were prepared in 1995 but were never completed. The complete evaluations of the Track 1 sites were deferred to the Waste Area Group (WAG) 5 comprehensive remedial investigation/feasibility study (RI/FS). Risks associated with potential soil contamination originating with the tanks are evaluated in the baseline risk assessment (BRA) component of the RI/FS.

**Distribution (complete package):**

**Distribution (summary package only):**

Author	Dept.	Reviewed	Date	Approved	Date
D. B. Pollitt	3105	C. M. Hiaring	5/15/98	F. L. Webber	5/15/98
		LMITCO Review	Date	LMITCO Approval	Date
			5/15/98		5/15/98



DECISION DOCUMENTATION PACKAGE  
COVER SHEET

prepared in accordance with

TRACK 1 SITES:  
GUIDANCE FOR ASSESSING  
LOW PROBABILITY HAZARD SITES  
AT INEL

Site description: PBF Reactor Area Abandoned Septic System

Site ID: PBF-30

Operable Unit: 05-12

Waste Area Group: 05

Document Date: November 7, 1995

**I. SUMMARY - Physical description of the site:**

Power Burst Facility (PBF) -30 is the site of a septic tank and leach field at the PBF Reactor Area. The PBF-30 septic system includes a 1,000 gallon tank, 4'x4'x3', attached to a subsurface drain field of approximately 1,000 square feet that allows the waste water to percolate to the soil column. PBF-30 was used to treat the sanitary waste water discharges from the former construction building from 1962 to early 1970. The construction building was located where the Parking Area #9 currently exists. The septic system is located approximately 160 feet southeast of the PBF Reactor Building, PBF-620, at the northwest corner of parking area #9. The construction building was demolished in 1971. The PBF-30 site was identified in September, 1994 as a potential hazardous waste release site in a New Site Identification form. Deliberations between the FFA/CO parties in September 1994 resulted in the requirement to prepare a Track 1 document.

A site visit conducted September 14, 1995 revealed a floor slab with plumbing hubs exposed. All but one plumbing hub for the water closets were closed with a bituminous substance. The plumbing hubs for the urinals and the lavatories were likewise closed. The area of the tank is covered by a temporary storage shed without foundations, therefore direct observations of the tank and access hatch were not possible.

Disposal of process wastes in this site is not suspected. The liquid in the septic tank was analyzed for semivolatle organic compounds, metals in the liquid, PCBs, and radio isotopes. The sludge in the septic tank was analyzed for semivolatle organic compounds, volatile organic compounds (VOC), metals in the solid, PCBs, and radio isotopes. Analysis of the samples from the septic tank have not detected hazardous or radiologically-contaminated liquids or sludge above action levels.

## DECISION RECOMMENDATION

### II. SUMMARY - Qualitative Assessment of Risk:

The PBF-30 septic system was abandoned in-place when the construction building was demolished in 1971. This construction building was approximately 160 feet southeast of PBF-620 Reactor Building. The concrete floor and foundation system for the construction building remain at the original location and is used for Parking Area #9. An inspection of the floor slab shows that the plumbing hubs for the water closets are still in place but have been closed with a bituminous plug. The plumbing hubs for the sinks and urinals are also in place and sealed with a bituminous plug. The septic tank and associated leach field are near the northwest end of the concrete pad for the former construction building at the PBF Reactor Area. During field sampling it was noted that the tank contained water as well as sludge which would indicate that the outlet line has been plugged and that the tank is not leaking. There is no evidence of leakage of liquids or sludge from the tank to the environment by observation of the surrounding areas.

The liquid in the septic tank was analyzed for semivolatile organic compounds, metals in the liquid, PCBs, and radio isotopes. The sludge in the septic tank was analyzed for semivolatile organic compounds, volatile organic compounds (VOC), metals in the solid, PCBs, and radio isotopes. Analysis of the samples from the septic tank have not detected hazardous or radiologically-contaminated liquids or sludge above action levels.

No risk of release to the environment or risk to human health is present through the septic system. Therefore, the overall qualitative assessment of risk is low.

### III. SUMMARY - Consequences of Error:

False Negative Error: If contaminant concentrations are greater than estimated, then the possibility exists that a receptor could be exposed to the source through the soils inhalation or ingestion pathway. However, the possibility of contamination being above risk-based levels at the site is remote. The septic system was used for nonhazardous sanitary wastes. Estimated soil concentrations are below risk-based levels.

False Positive Error: If further action is completed at this site, the funds expended would exceed the environmental benefit to the site. At least two soil samples for organic compounds and metals around the tank and two more in the leach field would be needed to verify the presence of contamination. Based on existing data, there is no need for further action at the site.

#### IV. SJMMARY - Other Decision Drivers:

No manufacturing or production process wastes are associated with this site. In the original use, no hazardous wastes would have been disposed of in this system. Following demolition of the building, the lines were closed reducing chances of accidental introduction of hazardous wastes.

Other similar sites are:

Water Reactor Research Test Facility (WRRTF)-06, the Sewage Lagoon was a Track 1 site that was reclassified as a No Further Action site in 1993.

Chemical Processing Plant (CPP)-75, the septic tank at west of CPP-603 was identified as a No Further Action site in the FFA/CO in 1991.

Chemical Processing Plant (CPP)-76, the septic tank at west of CPP-659 was identified as a No Further Action site in the FFA/CO in 1991.

#### Recommended action:

The risk posed by the septic tank and the leach field is below action levels based on calculations for soil ingestion, inhalation of fugitive dust, inhalation of volatiles, ingestion of groundwater, and external radiation exposure in both the occupational and residential scenario. The septic tank appears to be holding the liquids and sludge without leakage. The laboratory reports indicate that any contamination in the tank is below action levels. The estimates for leach field contamination levels are below action levels.

If the septic tank does fail and the contents are released into the soil, the contents are not hazardous at present concentrations.

Site PBF-30 should be reclassified as a no further action site and removed from the universe of solid waste management units. Analytical results from representative samples confirm that the site presents no hazard above acceptable levels of risk.

Signatures	# PAGES:	DATE:
Prepared By:	DOE WAG Manager:	
Approved By:	Independent Review:	

DECISION STATEMENT  
(by DOE RPM)

Date received:

Disposition:

DATE:

# PAGES (decision statement):

NAME:

SIGNATURE:

DECISION STATEMENT  
(by EPA RPM)

Date received:

Disposition:

DATE:

# PAGES (decision statement):

NAME:

SIGNATURE:

**DECISION STATEMENT**  
(by IDHW RPM)

Date received:

Disposition:

DATE:

# PAGES (decision statement):

NAME:

SIGNATURE:

**PROCESS/WASTE WORKSHEET**

**SITE ID**   PBF-30  

Col 1 Processes Associated with this Site	Col 2 Waste Description & Handling Procedures	Col 3 Description & Location of any Artifacts/Structures/Disposal Areas Associated with this Waste or Process
<p>Process</p> <p>Sanitary Waste Disposal</p>	<p>Sanitary Waste - directed from construction building to the septic tank and then to the leach field after typical septic tank reactions.</p>	<p>Artifact:       1,000 gallon septic tank, 4'x4'x3' (estimate)</p> <p>Location:       Southeast of PBF-620 ~ 160'</p> <p>Description:   Septic tank - 4'x4'x3' (estimate)</p>
		<p>Artifact:       Leach field, 1,000 square feet (estimate)</p> <p>Location:       Southeast of PBF-620 ~ 160'</p> <p>Description:   Perforated Pipe, balance of installation unknown</p>
		<p>Artifact</p> <p>Location</p> <p>Description</p>

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# CONTAMINANT WORKSHEET

SITE ID PBF-30

PROCESS (Col 1) Septic Tank Contents

WASTE (Col 2) Sanitary Waste

Col 4 What known/potential hazardous substances/constituents are associated with this waste or process?	Col 5 Potential sources associated with this hazardous material	Col 6 Known/estimated concentration of hazardous substances/constituents mg/kg or pCi/g	Col 7 Risk based concentration mg/kg or pCi/g	Col 8 Qualitative risk assessment (Hi/Med/Lo)	Col 9 Overall reliability (Hi/Med-/Lo)
<b>Analyte Semivolatiles</b>					
2,4-Dichlorophenol	Sludge	Not Detected	NC <sup>a</sup>	Low	High
1,4,-Dichlorobenzene	Sludge	1.5E+02	1.9E+05	Low	High
<b>Analyte VOCs</b>					
Methylene Chloride	Sludge	4.00E+00 <sup>B</sup>	7.55E+05	Low	High
2-Butanone	Sludge	1.80E+01 <sup>E</sup>	1.36E+05	Low	High
<b>Analyte - Metals (liquid)</b>					
Aluminum	Water	2.79E+03	NC <sup>b</sup>	NA	NA
Barium	Water	6.19E+01 <sup>B</sup>	1.89E+04	Low	High
Calcium	Water	1.39E+04 <sup>E</sup>	NC <sup>b</sup>	NA	NA
Copper	Water	9.45E+01 <sup>B</sup>	NC <sup>a</sup>	Low	High
Iron	Water	1.42E+05 <sup>E</sup>	NC <sup>b</sup>	NA	NA
Lead	Water	2.54E+02	9.53E+04	Low	High
Manganese	Water	6.20E+02	NC <sup>a</sup>	Low	High
Potassium	Water	9.86E+02 <sup>B</sup>	NC <sup>b</sup>	NA	NA
Sodium	Water	2.44E+02 <sup>B</sup>	NC <sup>b</sup>	NA	NA
Zinc	Water	2.81E+02	8.10E+04	Low	High

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# CONTAMINANT WORKSHEET

SITE ID PBF-30

PROCESS (Col 1) Septic Tank Contents

WASTE (Col 2) Sanitary Waste

Col 4 What known/potential hazardous substances/constituents are associated with this waste or process?	Col 5 Potential sources associated with this hazardous material	Col 6 Known/estimated concentration of hazardous substances/constituents mg/kg or pCi/g	Col 7 Risk based concentration mg/kg or pCi/g	Col 8 Qualitative risk assessment (Hi/Med/Lo)	Col 9 Overall reliability (Hi/Med-/Lo)
<b>Analyte - Metals (solid)</b>					
Aluminum	Sludge	2.79E+03	NC <sup>b</sup>	NA	NA
Arsenic	Sludge	4.90E+00	0.4 mg/kg	Low	High
Barium	Sludge	6.19E+01 <sup>B</sup>	20000 mg/kg	Low	High
Beryllium	Sludge	4.50E-01 <sup>B</sup>	0.1 mg/kg	Low	High
Calcium	Sludge	1.39E+04	NC <sup>b</sup>	NA	NA
Chromium	Sludge	9.96E+01	1.35E+03	Low	High
Cobalt	Sludge	2.06E+01 <sup>B</sup>	NC <sup>b</sup>	NA	NA
Copper	Sludge	9.45E+01	NC <sup>a</sup>	Low	High
Iron	Sludge	1.42E+05	NC <sup>b</sup>	NA	NA
Lead	Sludge	2.54E+02	9.53E+04	Low	High
Magnesium	Sludge	1.93E+03 <sup>B</sup>	NC <sup>b</sup>	NA	NA
Manganese	Sludge	6.20E+02	1.35E+03	Low	High
Nickel	Sludge	5.33E+01	5.40E+03	Low	High
Potassium	Sludge	9.86E+02 <sup>B</sup>	NC <sup>b</sup>	NA	NA
Silver	Sludge	8.43E+02	1.35E+03	Low	High
Sodium	Sludge	2.44E+03 <sup>B</sup>	NC <sup>b</sup>	NA	NA
Vanadium	Sludge	1.88E+01 <sup>B</sup>	NC <sup>a</sup>	Low	High
Zinc	Sludge	2.81E+02	8.10E+04	Low	High
<b>Analyte - PCBs</b>					
Aroclor 1260	Sludge	Not measured <sup>c</sup>	8.31E-02	Low	High

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# CONTAMINANT WORKSHEET

SITE ID   PBF-30  

PROCESS (Col 1)   Septic Tank Contents  

WASTE (Col 2)   Sanitary Waste  

Col 4 What known/potential hazardous substances/constituents are associated with this waste or process?	Col 5 Potential sources associated with this hazardous material	Col 6 Known/estimated concentration of hazardous substances/constituents mg/kg or pCi/g	Col 7 Risk based concentration mg/kg or pCi/g	Col 8 Qualitative risk assessment (Hi/Med/Lo)	Col 9 Overall reliability (Hi/Med-/Lo)
Isotope					
Cs-137 L	Sludge	Not measured <sup>c</sup>	8.61E-02	Low	High

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- a Not Calculated due to lack of available toxicity information.
- b. Not calculated because contaminant is an essential nutrient.
- c. Contaminant water concentration was not measured.
- NC Not Calculated
- B Analyte found in blank, possible lab contamination
- E May have matrix interference
- L Rejected, naturally occurring radionuclide with expected activity
- NA Not Applicable

**CONTAMINANT WORKSHEET**

**SITE ID**   PBF-30  

**PROCESS** (Col 1)   Estimated Leach Field Concentrations        **WASTE** (Col 2)   Sanitary Waste  

Col 4 What known/potential hazardous substances/constituents are associated with this waste or process?	Col 5 Potential sources associated with this hazardous material	Col 6 Estimated concentration of hazardous substances/constituents (mg/kg or pCi/g)	Col 7 Risk based concentration mg/kg	Col 8 Qualitative risk assessment (Hi/Med/Lo)	Col 9 Overall reliability (Hi/Med-/Lo)
<b>Analyte Semivolatiles</b>					
2,4-Dichlorophenol	Soil	Not Calculated	NC <sup>a</sup>	Low	High
1,4,-Dichlorobenzene	Soil	Not Calculated	1.9E+05	Low	High
<b>Analyte VOAs</b>					
Methylene Chloride	Soil	6.7E-01 <sup>B</sup>	7.55E+05	Low	High
2-Butanone	Soil	2.7E+00	1.36E+05	Low	High
<b>Analyte - Metals (soil)</b>					
Aluminum	Soil	4.2E+02	NC <sup>b</sup>	Low	High
Arsenic	Soil	7.3E-01	4.27E-01	Low	High
Barium	Soil	9.2E+00 <sup>B</sup>	1.89E+04	Low	High
Beryllium	Soil	6.7E-02 <sup>B</sup>	1.49E-01	Low	High
Calcium	Soil	2.1E+03	NC <sup>b</sup>	Low	High
Chromium	Soil	1.49E+01	1.35E+03	Low	High
Cobalt	Soil	3.1E+00 <sup>B</sup>	NC <sup>a</sup>	Low	High
Copper	Soil	1.4E+01	NC <sup>a</sup>	Low	High
Iron	Soil	2.1E+04	NC <sup>b</sup>	Low	High
Lead	Soil	3.8E+01	9.53E+04	Low	High
Magnesium	Soil	2.9E+02 <sup>B</sup>	NC <sup>b</sup>	Low	High
Manganese	Soil	9.2E+01	1.35E+03	Low	High
Nickel	Soil	7.9E+00	5.40E+03	Low	High

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# CONTAMINANT WORKSHEET

SITE ID  PBF-30

PROCESS (Col 1)  Estimated Leach Field Concentrations  WASTE (Col 2)  Sanitary Waste

Col 4 What known/potential hazardous substances/constituents are associated with this waste or process?	Col 5 Potential sources associated with this hazardous material	Col 6 Estimated concentration of hazardous substances/constituents (mg/kg or pCi/g)	Col 7 Risk based concentration mg/kg	Col 8 Qualitative risk assessment (Hi/Med/Lo)	Col 9 Overall reliability (Hi/Med-/Lo)
Potassium	Soil	1.5E+02 <sup>B</sup>	NC <sup>b</sup>	Low	High
Silver	Soil	1.3E+02	1.35E+03	Low	High
Sodium	Soil	3.6E+02 <sup>B</sup>	NC <sup>b</sup>	Low	High
Vanadium	Soil	2.8E+00 <sup>B</sup>	NC <sup>a</sup>	Low	High
Zinc	Soil	4.2E+01	8.10E+04	Low	High
Analyte - PCBs					
Aroclor 1260	Soil	Not Calculated	8.31E-02	Low	High
Isotope					
Cs-137 <sup>L</sup>	Soil	Not Calculated	8.61E-02	Low	High

- a Not Calculated due to lack of available toxicity information.
- b. Not calculated because contaminant is an essential nutrient.
- c. Contaminant water concentration was not measured.

NC Not Calculated

- B Analyte found in blank, possible lab contamination
- E May have matrix interference
- L Rejected, naturally occurring radionuclide with expected activity

NA Not Applicable

**PROCESS/WASTE WORKSHEET**

**SITE ID**   PBF-30  

Col 1 Processes Associated with this Site	Col 2 Waste Description & Handling Procedures	Col 3 Description & Location of any Artifacts/Structures/Disposal Areas Associated with this Waste or Process
<p>Process</p> <p>Sanitary Waste Disposal</p>	<p>Sanitary Waste - directed from construction building to the septic tank and then to the leach field after typical septic tank reactions.</p>	<p>Artifact:       1,000 gallon septic tank, 4'x4'x3' (estimate)</p> <p>Location:       Southeast of PBF-620 ~ 160'</p> <p>Description:   Septic tank - 4'x4'x3' (estimate)</p>
		<p>Artifact:       Leach field, 1,000 square feet (estimate)</p> <p>Location:       Southeast of PBF-620 ~ 160'</p> <p>Description:   Perforated Pipe, balance of installation unknown</p>
		<p>Artifact</p> <p>Location</p> <p>Description</p>

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QUALITATIVE RISK AND RELIABILITY EVALUATION TABLE			
	QUALITATIVE RISK		
	Low	Medium	High
highly unreliable	screening data	TRACK 2	screening data
			
highly reliable	No Action Required	R/FS	Interim Action *
Reliability	LOW concentration resulting in risk < 10 <sup>-6</sup>	MEDIUM	HIGH concentration resulting in risk > 10 <sup>-4</sup>
	Qualitative risk		

\* If sufficient data exist to identify an appropriate remedy

**Question 1.** What are the waste generation process locations and dates of operation associated with this site?

Block 1 Answer:

The waste generation process locations were toilet rooms and a cold lunch room associated with a union workers construction building located approximately 160 feet southeast of the PBF 620 Reactor Building where Parking Area #9 is presently located. Design drawings were the sole property of the Contractor and have not been located, hence, the design of the plumbing system for the construction building could not be reviewed. It appears that the building was built and used by the general contractor and the drawings are not on file. The construction building was in use from 1962 until early 1970 as an eating area, toilet facility, and materials receiving facility. Based on interviews, no piping or other materials assembly was conducted in the building. The construction building was demolished in 1971 which ended the use of the septic system. The septic tank is estimated to be four feet by four feet by three feet high and have a capacity of 1,000 gallons. The leach field is estimated to be 1,000 square feet. The depth of the leach field is unknown and cannot be estimated with current information. The leach field probably consists of four parallel lines of perforated pipe. Details of the installation are not known.

Block 2 How reliable is/are the information source/s?  High  Med  Low (check one)

Explain the reasoning behind this evaluation.

The waste generation process has been established through interviews with employees at the facility during construction of the reactor.

Block 3 Has this INFORMATION been confirmed?  Yes  No (check one)

If so, describe the confirmation.

Aerial photographs from 1967, 1968, and 1976 and a site visit have confirmed the location of the construction building and the presence of toilet plumbing in the concrete floor slab. The photographs were taken while the construction building was in use and after the construction building was removed.

Block 4 Sources of Information (check appropriate box(es) & source number from reference list)

No available information	<input type="checkbox"/>	_____	Analytical data	<input type="checkbox"/>	_____
Anecdotal	<input checked="" type="checkbox"/>	1 & 6	Documentation about data	<input type="checkbox"/>	_____
Historical process data	<input type="checkbox"/>	_____	Disposal data	<input type="checkbox"/>	_____
Current process data	<input type="checkbox"/>	_____	Q.A. data	<input type="checkbox"/>	_____
Areal photographs	<input checked="" type="checkbox"/>	2	Safety analysis report	<input type="checkbox"/>	_____
Engineering/site drawings	<input type="checkbox"/>	_____	D&D report	<input type="checkbox"/>	_____
Unusual Occurrence Report	<input type="checkbox"/>	_____	Initial assessment	<input type="checkbox"/>	_____
Summary documents	<input type="checkbox"/>	_____	Well data	<input type="checkbox"/>	_____
Facility SOPs	<input type="checkbox"/>	_____	Construction data	<input type="checkbox"/>	_____
Other	<input type="checkbox"/>	_____			

**Question 2.** What are the disposal process locations and dates of operation associated with this site?

Block 1 Answer:

The PBF-30 septic system is located approximately 160' southeast of the building PBF-620, at the northwest corner of Parking Area #9. Parking Area #9 is the floor slab for the construction building that housed the toilet facilities served by the septic system.

The construction building (no PBF number assigned) and the septic tank and leach field (PBF-30) were used between 1962 and 1970. In 1971, the construction building was demolished and the septic system was abandoned in place. The septic tank is estimated to be four feet by four feet by three feet high and have a capacity of 1,000 gallons. The leach field is estimated to be 1,000 square feet. The depth of the leach field is unknown and cannot be estimated with current information. The leach field probably consists of four parallel lines of perforated pipe. Details of the installation are not known.

Block 2 How reliable is/are the information source/s? \_\_\_High xMed \_\_\_Low (check one)  
Explain the reasoning behind this evaluation.

Personnel interviews with operations staff support the dates and locations.

Block 3 Has this INFORMATION been confirmed? xYes \_\_\_No (check one)  
If so, describe the confirmation.

Field surveys with ground penetrating radar confirm the location of the septic tank and approximate location of the leach field. Photographs from 1967, 1968, and 1976 support the interviews. The photographs were taken while the construction building was in use and after the construction building was removed.

Block 4 Sources of Information (check appropriate box(es) & source number from reference list)

No available information	<input type="checkbox"/>	_____	Analytical data	<input type="checkbox"/>	_____
Anecdotal	<input checked="" type="checkbox"/>	<u>1 &amp; 6</u>	Documentation about data	<input type="checkbox"/>	_____
Historical process data	<input type="checkbox"/>	_____	Disposal data	<input type="checkbox"/>	_____
Current process data	<input type="checkbox"/>	_____	Q.A. data	<input type="checkbox"/>	_____
Aerial photographs	<input checked="" type="checkbox"/>	<u>2</u>	Safety analysis report	<input type="checkbox"/>	_____
Engineering/site drawings	<input type="checkbox"/>	_____	D&D report	<input type="checkbox"/>	_____
Unusual Occurrence Report	<input type="checkbox"/>	_____	Initial assessment	<input checked="" type="checkbox"/>	<u>7</u>
Summary documents	<input type="checkbox"/>	_____	Well data	<input type="checkbox"/>	_____
Facility SOPs	<input type="checkbox"/>	_____	Construction data	<input type="checkbox"/>	_____
Other	<input type="checkbox"/>	_____			

**Question 3.** Is there evidence that a source exists at this site? If so, list the sources and describe the evidence.

Block 1 Answer:

The construction building that occupied this site from 1962 through 1971, had one toilet room consisting of; five water closets, urinals and sinks. The toilet room also had a floor drain. The lunch room may have had a sink. None of these uses would, in the normal course of a day, generate hazardous chemicals. Analysis data indicates that there are no chemicals in the septic tank above action levels based on summary analysis and results. In 1971, the plumbing system was plugged with bituminous materials as a part of the demolition of the building, reducing the possibilities of hazardous chemicals being dumped into the septic system after removal of the building.

The septic tank is estimated to be four feet by four feet by three feet high and have a capacity of 1,000 gallons. The leach field is estimated to be 1,000 square feet. The depth of the leach field is unknown and cannot be estimated with current information. The leach field probably consists of four parallel lines of perforated pipe. Details of the installation are not known. When samples were taken, there were fluids and sludge in the tank. No estimation was made as to the volume in the tank.

Block 2 How reliable is/are the information source/s? \_\_\_High  Med \_\_\_Low (check one)  
Explain the reasoning behind this evaluation.

The analysis data of liquids and sludge in the septic tank were reviewed and confirm the lack of hazardous chemicals above action levels in the septic tank. Estimates on concentrations of hazardous materials in the leach field are also below action levels.

Block 3 Has this INFORMATION been confirmed?  Yes \_\_\_No (check one)  
If so, describe the confirmation.

Personnel interviews and a site visit have confirmed the information.  
The L&V Report validates the analytical data.

Block 4 Sources of Information (check appropriate box(es) & source number from reference list)

No available information	<input type="checkbox"/> _____	Analytical data	<input checked="" type="checkbox"/> <u>3 &amp; 4</u>
Anecdotal	<input checked="" type="checkbox"/> <u>1 &amp; 6</u>	Documentation about data	<input checked="" type="checkbox"/> <u>8</u>
Historical process data	<input type="checkbox"/> _____	Disposal data	<input type="checkbox"/> _____
Current process data	<input type="checkbox"/> _____	Q.A. data	<input type="checkbox"/> _____
Areal photographs	<input type="checkbox"/> _____	Safety analysis report	<input type="checkbox"/> _____
Engineering/site drawings	<input type="checkbox"/> _____	D&D report	<input type="checkbox"/> _____
Unusual Occurrence Report	<input type="checkbox"/> _____	Initial assessment	<input type="checkbox"/> _____
Summary documents	<input type="checkbox"/> _____	Well data	<input type="checkbox"/> _____
Facility SOPs	<input type="checkbox"/> _____	Construction data	<input type="checkbox"/> _____
Other	<input type="checkbox"/> _____		

**Question 4.** Is there empirical, circumstantial, or other evidence of migration? If so, what is it?

Block 1 Answer:

Analysis data shows that the liquid and sludge in the septic tank do not contain hazardous substances above action levels. Any migration from the tank or in the leach field that may have occurred does not appear to pose a threat to human health and the environment based on the concentrations in the analysis data.

During field sampling it was noted that the tank contained water as well as sludge which would indicate that the outlet line has been plugged and that the tank is not leaking. There is no evidence of leakage of liquids or sludge from the tank to the environment by observation of the surrounding areas.

No samples have been taken around the tank or the leach field.

Block 2 How reliable is/are the information source/s?  High  Med  Low (check one)  
Explain the reasoning behind this evaluation.

Analysis data from within the tank (not the soils around the tank) indicate that there are no hazardous substances above action levels.

Field observations confirm the presence of liquids in the tank.

Block 3 Has this INFORMATION been confirmed?  Yes  No (check one)  
If so, describe the confirmation.

The L&V Report validates the analytical data.

Block 4 Sources of Information (check appropriate box(es) & source number from reference list)

No available information  \_\_\_\_\_

Anecdotal  \_\_\_\_\_

Historical process data  \_\_\_\_\_

Current process data  \_\_\_\_\_

Areal photographs  \_\_\_\_\_

Engineering/site drawings  \_\_\_\_\_

Unusual Occurrence Report  \_\_\_\_\_

Summary documents  \_\_\_\_\_

Facility SOPs  \_\_\_\_\_

Other  \_\_\_\_\_

Analytical data  3 & 4

Documentation about data  8

Disposal data  \_\_\_\_\_

Q.A. data  \_\_\_\_\_

Safety analysis report  \_\_\_\_\_

D&D report  \_\_\_\_\_

Initial assessment  \_\_\_\_\_

Well data  \_\_\_\_\_

Construction data  \_\_\_\_\_

**Question 5.** Does site operating or disposal historical information allow estimation of the pattern of potential contamination? If the pattern is expected to be a scattering of hot spots, what is the expected minimum size of a significant hot spot?

Block 1 Answer:

Site operations and disposal histories are not available to assess the potential pattern for contamination. The analysis data indicates that there are no hazardous constituents above action levels in the septic tank in the liquid or sludge. Estimates of contamination levels in the leach field indicate that concentrations of hazardous substances are below action levels. No samples of the soils have been taken around the tank or the leach field.

Block 2 How reliable is/are the information source/s?  High  Med  Low (check one)  
Explain the reasoning behind this evaluation.

Analysis data in the laboratory report indicates that there are no hazardous substances above action levels in the liquid and sludge in the septic tank which indicates that there is no pattern of potential contamination resulting from this tank.

Block 3 Has this INFORMATION been confirmed?  Yes  No (check one)  
If so, describe the confirmation.

Quality assurance samples confirm that the laboratory results are valid.

Block 4 Sources of Information (check appropriate box(es) & source number from reference list)

No available information	<input type="checkbox"/> _____	Analytical data	<input checked="" type="checkbox"/> <u>3 &amp; 4</u>
Anecdotal	<input type="checkbox"/> _____	Documentation about data	<input checked="" type="checkbox"/> <u>8</u>
Historical process data	<input type="checkbox"/> _____	Disposal data	<input type="checkbox"/> _____
Current process data	<input type="checkbox"/> _____	Q.A. data	<input type="checkbox"/> _____
Aerial photographs	<input type="checkbox"/> _____	Safety analysis report	<input type="checkbox"/> _____
Engineering/site drawings	<input type="checkbox"/> _____	D&D report	<input type="checkbox"/> _____
Unusual Occurrence Report	<input type="checkbox"/> _____	Initial assessment	<input type="checkbox"/> _____
Summary documents	<input type="checkbox"/> _____	Well data	<input type="checkbox"/> _____
Facility SOPs	<input type="checkbox"/> _____	Construction data	<input type="checkbox"/> _____
Other	<input type="checkbox"/> _____		

**Question 6.** Estimate the length, width, and depth of the contaminated region. What is the known or estimated volume of the source? If this is an estimated volume, explain carefully how the estimate was derived.

Block 1 Answer:

There appears to be no contaminated region. The septic tank analysis data for the liquid and sludge indicates that there were no hazardous constituents detected above action levels. Estimates of contamination levels in the leach field indicate that concentrations of hazardous substances are below action levels.

Block 2 How reliable is/are the information source/s?  High  Med  Low (check one)  
Explain the reasoning behind this evaluation.

The analytical results indicate that no contaminated region would exist because the concentrations are below action levels.

Block 3 Has this INFORMATION been confirmed?  Yes  No (check one)  
If so, describe the confirmation.

Quality assurance samples confirm that the liquid and sludge analytical results are valid.

Block 4 Sources of Information (check appropriate box(es) & source number from reference list)

No available information  \_\_\_\_\_  
Anecdotal  \_\_\_\_\_  
Historical process data  \_\_\_\_\_  
Current process data  \_\_\_\_\_  
Areal photographs  \_\_\_\_\_  
Engineering/site drawings  \_\_\_\_\_  
Unusual Occurrence Report  \_\_\_\_\_  
Summary documents  \_\_\_\_\_  
Facility SOPs  \_\_\_\_\_  
Other  \_\_\_\_\_

Analytical data  3 & 4  
Documentation about data  8.9  
Disposal data  \_\_\_\_\_  
Q.A. data  \_\_\_\_\_  
Safety analysis report  \_\_\_\_\_  
D&D report  \_\_\_\_\_  
Initial assessment  \_\_\_\_\_  
Well data  \_\_\_\_\_  
Construction data  \_\_\_\_\_

**Question 7.** What is the known or estimated quantity of hazardous substance/constituent at this source? If the quantity is an estimate, explain carefully how the estimate was derived.

**Block 1 Answer:**

The sample data indicate that there are no hazardous substances and constituents above action levels, therefore, there appears to be no source.

**Block 2** How reliable is/are the information source/s?  High  Med  Low (check one)  
Explain the reasoning behind this evaluation.

The analytical results indicate that no contaminated region would exist because the concentrations are below action levels.

**Block 3** Has this INFORMATION been confirmed?  Yes  No (check one)  
If so, describe the confirmation.

Quality assurance samples confirm that the liquid and sludge analytical results are valid.

**Block 4 Sources of Information** (check appropriate box(es) & source number from reference list)

No available information	<input type="checkbox"/> _____	Analytical data	<input checked="" type="checkbox"/> <u>3 &amp; 4</u>
Anecdotal	<input type="checkbox"/> _____	Documentation about data	<input type="checkbox"/> <u>8</u>
Historical process data	<input type="checkbox"/> _____	Disposal data	<input type="checkbox"/> _____
Current process data	<input type="checkbox"/> _____	Q.A. data	<input type="checkbox"/> _____
Aerial photographs	<input type="checkbox"/> _____	Safety analysis report	<input type="checkbox"/> _____
Engineering/site drawings	<input type="checkbox"/> _____	D&D report	<input type="checkbox"/> _____
Unusual Occurrence Report	<input type="checkbox"/> _____	Initial assessment	<input type="checkbox"/> _____
Summary documents	<input type="checkbox"/> _____	Well data	<input type="checkbox"/> _____
Facility SOPs	<input type="checkbox"/> _____	Construction data	<input type="checkbox"/> _____
Other	<input type="checkbox"/> _____		

**Question 8.** Is there evidence that this hazardous substance/constituent is present at the source as it exists today? If so, describe the evidence.

Block 1 Answer:

The septic system including the septic tank and the leach field remain at PBF-30, located approximately 160 feet southeast of the PBF-620 Reactor Building. However, there is no evidence that hazardous substances or constituents are present in the septic tank, leach field, or surrounding environment.

Block 2 How reliable is/are the information source/s? \_High \_Med \_Low (check one)  
Explain the reasoning behind this evaluation.

The analyses have been reviewed and validated and there is no indication any hazardous constituents above action levels remain in the septic system.

Block 3 Has this INFORMATION been confirmed? \_Yes \_No (check one)  
If so, describe the confirmation.

Quality assurance samples confirm that the liquid and sludge analytical results are valid.

Block 4 Sources of Information (check appropriate box(es) & source number from reference list)

No available information  \_\_\_\_\_  
Anecdotal  \_\_\_\_\_  
Historical process data  \_\_\_\_\_  
Current process data  \_\_\_\_\_  
Aerial photographs  \_\_\_\_\_  
Engineering/site drawings  \_\_\_\_\_  
Unusual Occurrence Report  \_\_\_\_\_  
Summary documents  \_\_\_\_\_  
Facility SOPs  \_\_\_\_\_  
Other  \_\_\_\_\_

Analytical data  3 & 4 \_\_\_\_\_  
Documentation about data  \_\_\_\_\_  
Disposal data  \_\_\_\_\_  
Q.A. data  \_\_\_\_\_  
Safety analysis report  \_\_\_\_\_  
D&D report  \_\_\_\_\_  
Initial assessment  \_\_\_\_\_  
Well data  \_\_\_\_\_  
Construction data  \_\_\_\_\_

## REFERENCES

1. John Capek, personal interview, September 15, 1995.
2. Site photographs, 67-2219, 67-5025, 68-3503, 76-1344 and 76-1345.
3. Laboratory analysis for semivolatiles, VOCs, metals (liquid), metals (solid), PCBs, and isotopes by Roy F. Weston, Inc. Lionville Laboratory, July, 1995.
4. LITCO Internal Report, Radiation Measurements Laboratory, Gamma-Ray Analysis, PBF Track 1, Septic Tank Samples, SDG - PTK00401R4
5. Field team leader log book.
6. LaVar Palmer, personal interview, September 18, 1995.
7. Ground penetrating radar survey, September 1993, Contact Paul Evans.
8. Limitations and Validation Report, Power Burst Facility-30 Septic Tank, Radiochemical Analysis, Sample Delivery Group #PTK00401AB - RPW-260-95
9. Notegram, D. E. Burns, Track 1 Calculations for PBF-30, October 2, 1995



**Date:** October 3, 1995  
**To:** Memo To PBF-30 Septic Tank and Leach Field File  
**From:** Rulon Nielsen  
**Subject:** Personal Interview: John Capek

On September 15, 1995, I conducted a personal interview with John Capek regarding the construction history of Power Burst Facility Reactor Building. The septic tank and leach field known as PBF-30 is under consideration as a Track 1. PBF-30 was the sanitary waste disposal system for the construction building associated with the construction of the Power Burst Facility Reactor Building.

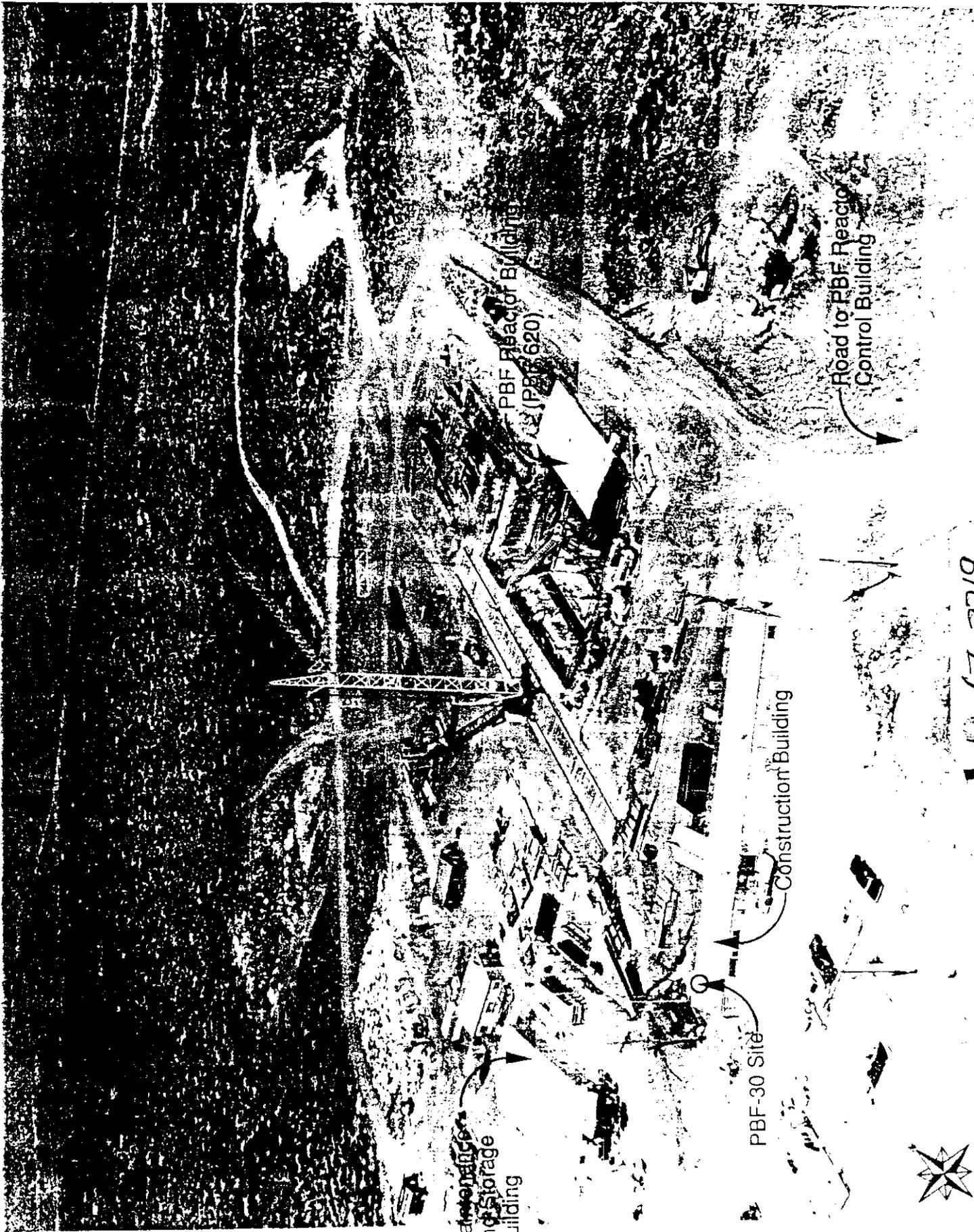
Mr. Capek served as the project photographer for 5 years during the construction of the PBF Reactor Building. His recollection is that the construction building was used as a lunch room and toilet facility for the construction workers. The balance of the building was used as a tool crib and occasionally received shipments of materials and tools. Assembly of piping was located in a separate building.

During the time he was involved in the project, he developed all films at central or in-town facilities. No photographic chemicals were used at the site.

**Date:** October 3, 1995  
**To:** Memo To PBF-30 Septic Tank and Leach Field File  
**From:** Rulon Nielsen  
**Subject:** Personal Interview: LaVar Palmer

On September 18, 1995, I conducted a personal interview with LaVar Palmer regarding the construction history of Power Burst Facility Reactor Building. The septic tank and leach field known as PBF-30 is under consideration as a Track 1. PBF-30 was the sanitary waste disposal system for the construction building associated with the construction of the Power Burst Facility Reactor Building.

Mr. Palmer worked at Special Power Excursion Reactor Test (SPERT) and Power Burst Facility Reactor during the completion of construction of the reactor building and the operation of the reactor test program. His recollection of the construction building is that it was used by construction workers as a lunch room and a toilet room. He was not certain of the use of the east end of the building.



Maintenance and Storage Building

PBF-30 Site

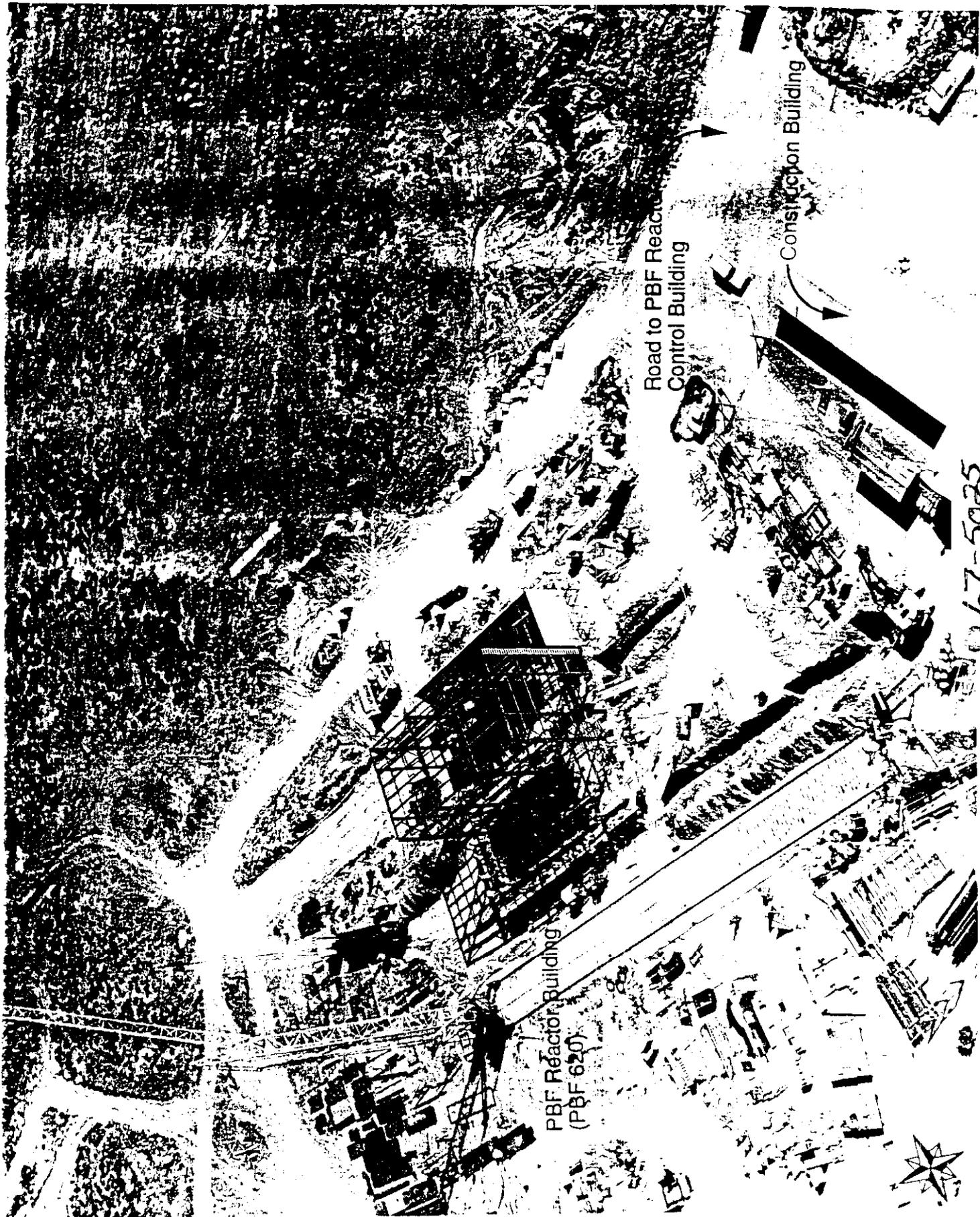
Construction Building

PBF Reactor Building (PBF 620)

Road to PBF Reactor Control Building



10 67-22/9





PBF Reactor Building  
(PBF 620)

Construction Building

PBF-30 Site

Road to PBF Reactor  
Control Building

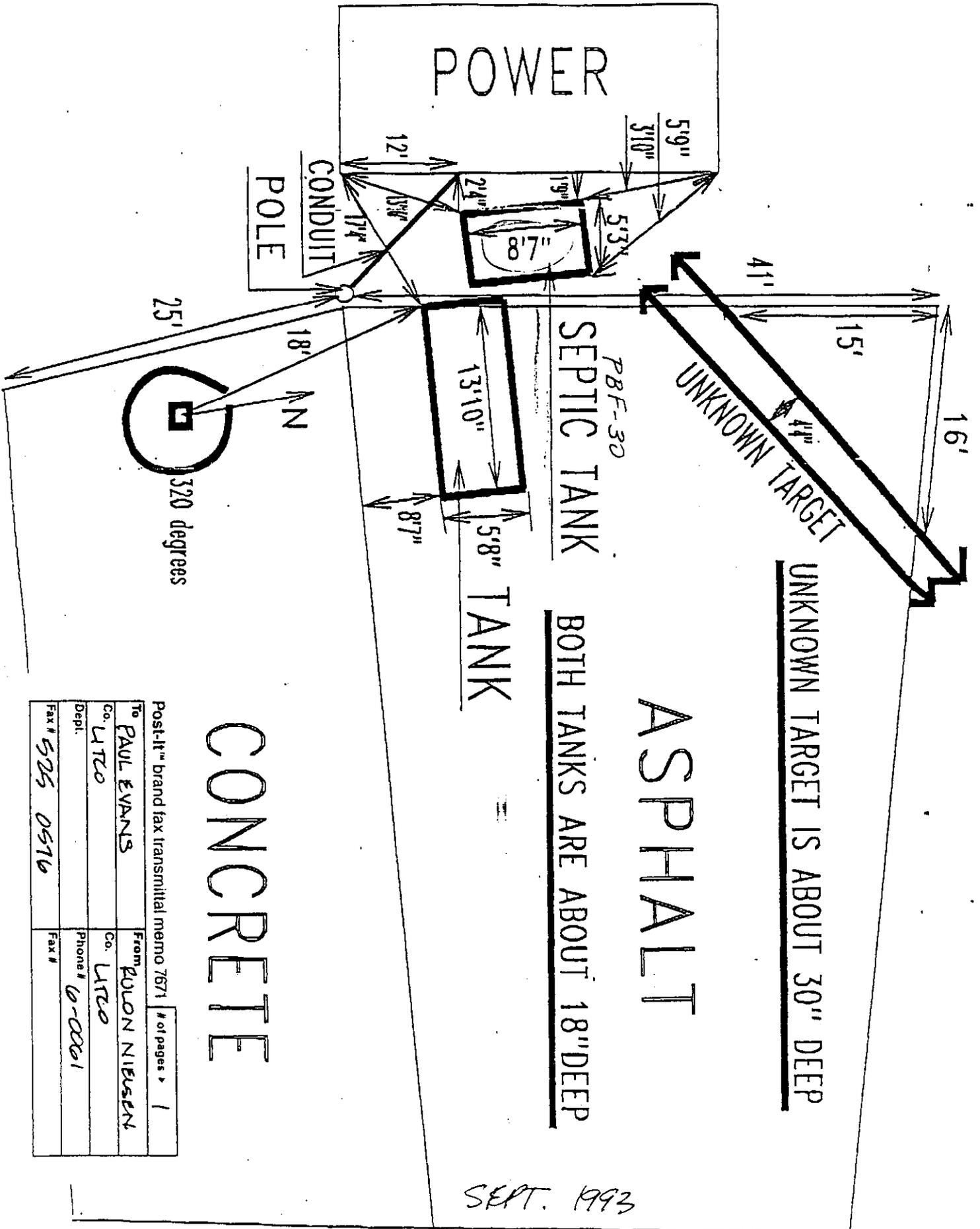
Maintenance  
and Storage  
Building

68-3503





076-1314



UNKNOWN TARGET IS ABOUT 30" DEEP

ASPHALT

BOTH TANKS ARE ABOUT 18" DEEP

CONCRETE

SEPT. 1993

Post-It™ brand fax transmittal memo 7671 # of pages 1

To	PAUL EVANS	From	ROLON NIBSENT
Co.	LITCO	Co.	LITCO
Dept.		Phone #	0-0001
Fax #	526 0576	Fax #	

Date: October 3, 1995  
To: Memo To PBF-30 Septic Tank and Leach Field File  
From: Rulon Nielsen  
Subject: Personal Interview: Paul Evans

*On October 2, 1995, I conducted a personal interview with Paul Evans regarding the ground penetrating radar survey of PBF-30 site. The septic tank and leach field known as PBF-30 is under consideration as a Track 1. PBF-30 was the sanitary waste disposal system for the construction building associated with the construction of the Power Burst Facility Reactor Building.*

The ground penetrating radar survey first identified the site in September 1993. The map generated by the survey is attached to this memo.