



DEPARTMENT OF DEFENSE
HEADQUARTERS 377TH AIR BASE WING (AFMC)

RECEIVED

DEC 20 1999

GROUND WATER BUREAU

16 Dec 99

MEMORANDUM FOR MS. JENNIFER PARKER
NEW MEXICO ENVIRONMENT DEPARTMENT
GROUND WATER QUALITY BUREAU
HAROLD RUNNELS BUILDING
P.O. BOX 26110
1190 ST. FRANCIS DRIVE
SANTA FE NM 87502

FROM: 377 ABW/EM
2050 Wyoming Blvd SE, Suite 126
Kirtland AFB NM 87117-5270

SUBJECT: 15-Day Notification of Discharge, Kirtland Air Force Base Bulk Fuels Facility

1. Pursuant to section 1203.A.6 of the New Mexico Water Quality Control Commission Regulations, we are submitting the attached 15-day Notification of Discharge. The 7-day report was provided to you on 19 Nov 99. This 15-day report includes the information from the 7-day report with updated information where applicable.
2. On 23 Nov 99, a meeting between Kirtland Air Force Base personnel (Mr. J. Sillerud and Mr. Patrick Montaño), NMED HRMB (Mr. W. Moats and Mr. R. Rocha), and NMED GWQB (Ms. J. Parker and Mr. J. Mullany), was held at Kirtland Air Force Base. During the meeting, it was determined that NMED GWQB would be the lead agency overseeing the investigation and remediation of the spill and line failure. This determination was based on the principle that the issue is one of a product release rather than an issue of hazardous waste. Additionally, during this meeting, Ms. J. Parker verbally granted an extension of time to 17 Dec 99 for submittal of this 15-day report.
3. If you have any questions on the information provided, please contact me at (505) 846-2751 or Mr. Mark Holmes at (505) 846-9005.


CHRISTOPHER B. DEWITT, RPG, GS-14
Director
Environmental Management Division

Attachment:
15-Day Notification of Discharge

cc: See Distribution



DISTRIBUTION

Ms. Angela Cross
New Mexico Environment Department
Drinking Water Bureau
4131 Montgomery Blvd. NE
Albuquerque, NM 87109

Mr. Jim Davis, Phd
New Mexico Environment Department
Surface Water Quality Bureau
Harold Runnels Building
P.O. Box 26110
1190 St. Francis Drive
Santa Fe NM 87502

Mr. William Moats
New Mexico Environment Department
Hazardous and Radioactive Materials Bureau
Harold Runnels Building
P.O. Box 26110
2044 A Galisteo
Santa Fe NM 87502-6110

377 ABW/JA
MAJOR PAT TOLAN

377 AMDS/SGPB
LT. HAINES

377 ABW/EMR
JERROLL SILLERUD

RECEIVED
DEC 20 1999
GROUND WATER BUREAU

**New Mexico Water Quality
Control Commission
Regulations (20 NMAC 6.2)
1203. Notification of Discharge - - Removal**

This notification deals with three separate discharge events at the same facility.

General description of Kirtland Air Force Base (KAFB) Bulk Fuels Facility:

(See Figure 1)

1. Fuel Off-Loading Rack (building 2405)
2. 2 each – 14” underground pipelines from off-loading rack to pump house
3. Pump House (building 1033)
4. Aboveground Storage Tanks (Tank 2422 – 4,200,000 gal. capacity), (Tank 2420 – 2,100,000 gal. capacity)
5. Two each - Tanker Loading Stands
6. Underground and aboveground piping of various sizes from pump house to storage tanks and to tanker loading stands
7. Annual through-put = 20 to 25 million gallons, JP-8

1203.A.1.a. the name, address, and telephone number of the person or persons in charge of the facility, as well as of the owner and/or operator of the facility;

Facility Owner

Department of the Air Force

Installation Commander

Polly A. Peyer, Colonel, USAF
Commander
377 ABW/CC
2000 Wyoming Blvd SE
Kirtland AFB, NM 87117-5606
(505) 846-7377

Organization Making Report

Mr. Christopher B. Dewitt, RPG, GS-14
Director
Environmental Management Division
377 ABW/EM
2050 Wyoming Blvd SE, Suite 126
Kirtland AFB, NM 87117-5270
(505) 846-2751

Facility Operator

Trend Western Technical Corporation
Mr. Ernie Marquez
Building 1032, Bulk Fuels Office
Kirtland AFB, NM 87117
(505) 846-0944

1203.A.1.b. the name and address of the facility;

Bulk Fuels Off-Loading Rack, Building 2405
400 Ft. NW of Building 1033
West side of Kirtland AFB
Kirtland AFB, NM 87117

1203.A.1.c. the date, time, location, and duration of the discharge;

Discharge #1:

11 Nov 99; 10:00 am; Kirtland Air Force Base Bulk Fuels Facility – JP-8 off-loading rack, 14” diameter underground pipeline #22 hydrostatic pressure test failure; duration of the discharge is unknown, duration of the test was 11 minutes

Discharge #2:

12 Nov 99; 11:45 am; Kirtland Air Force Base Bulk Fuels Facility – JP-8 off-loading rack, cam-lock coupling failure during 14” diameter underground pipeline #23 hydrostatic pressure test; duration of the discharge - 2 to 3 minutes

Discharge #3:

13 Nov 99; 10:00 am; Kirtland Air Force Base Bulk Fuels Facility – JP-8 off-loading rack, 14” diameter underground pipeline #23 hydrostatic pressure test failure; duration of the discharge – 30 seconds during the test

1203.A.1.d. the source and cause of discharge;

Discharge #1:

The source of the discharge was from the JP-8 off-loading rack, 14” diameter underground pipeline #22. The cause of the discharge was loss of pipeline integrity.

Discharge #2:

The source of the discharge was from the cam-lock coupling which failed during hydrostatic pressure testing of the JP-8 off-loading rack, 14” diameter underground pipeline #23. The cause of the discharge was a result of a faulty cam-lock coupling.

Discharge #3:

The source of the discharge was from the JP-8 off-loading rack, 14” diameter underground pipeline #23. The cause of the discharge was a result of loss of pipeline integrity.

1203.A.1.e. description of the discharge, including its chemical composition;

Discharge #1:

On 11 Nov 99, KAFB fuels maintenance personnel conducted hydrostatic pressure testing of underground pipeline #22 which runs from the fuel off-loading rack to the pump house. The test failed, showing a loss of 70 PSI (100 PSI to 30 PSI in 30 seconds). It is not known how long this pipeline has been in a state of failure. The chemical composition of the discharge is JP-8 aircraft fuel.

Discharge #2:

On 12 Nov 99, following the failure of pipeline #22, KAFB fuels maintenance personnel conducted hydrostatic pressure testing of secondary underground pipeline #23 which runs from the fuel off-loading rack to the pump house. It is believed this line has not been used at the facility since the 1980s. During the test, fuel was observed flowing out of a cam-lock coupling onto the ground surface. Surface soils, in the immediate area of the off-loading rack, and an area north of the off-loading rack measuring approximately 25 ft. by 75 ft. were affected by the spill. The chemical composition of the discharge is JP-8 aircraft fuel.

Discharge #3:

On 13 Nov 99, following repair of the cam-lock coupling, KAFB fuels maintenance personnel again initiated hydrostatic pressure testing of underground pipeline #23. The test failed, showing a loss of 100 PSI (100 PSI to 0 PSI in 30 seconds). Fuel was observed flowing up through the ground surface adjacent to the off-loading rack. Testing was immediately discontinued. It is not known how long this pipeline has been in a state of failure, however, it is believed pipeline #23 has not been used since the 1980s. The chemical composition of the discharge is JP-8 aircraft fuel.

1203.A.1.f. the estimated volume of the discharge;

Discharge #1:

Unknown. Fuel inventory records indicate a loss of approximately 97,171 gallons (0.36% of total handled) over the past 12 months. Some of the loss can be attributed to variation of fuel temperature and density readings during measurements, malfunctions of the automatic tank gauging system, line displacement occurrences during receipt and transfer operations, and vapor losses occurring during receipts and transfers through the floating roofs of the two large storage tanks.

Discharge #2:

Approximately 200 to 400 gallons

Discharge #3:

Approximately 30 gallons

1203.A.1.g. any actions taken to mitigate immediate damage from the discharge.

Discharge #1, 2, and 3:

Following the line testing, the remaining fuel contained in underground pipelines #22 and #23 was evacuated. Both lines have been isolated to prohibit use until repairs or new line installation is completed. A temporary off-loading area has been constructed. Current plans anticipate the complete demolition of the existing fuel off-loading rack and construction of a new off-loading rack. Fuel transfer lines associated with this new facility will be placed in concrete trenches with no exposure/contact to the sub-surface soils. The new fuel off-loading rack is scheduled for completion in Sep 00.

The stained surface soils (approximately 76 cubic yards) north of the off-loading rack have been removed and were disposed of in accordance with applicable laws and regulations. A report detailing the soil removal effort is provided in appendix A. The report also includes analytical results of the disposed soil as well as waste disposal manifests. KAFB fuels maintenance personnel completed testing of all remaining active underground lines at the bulk fuels facility. All of these other lines passed testing. A letter from the KAFB fuels maintenance group that documents the results of the testing is included in appendix B.

Supplemental Information.

1. Potential Impact to Ground Water:

Depth to ground water at the site is approximately 450 to 500 feet below ground level. The nearest KAFB drinking water production well #15 is approximately 1,830-ft northwest of the site (cross gradient). KAFB drinking water production well #16 is approximately 3,430-ft northeast of the site (see figure 1). Well construction details from the as built drawings are provided in figure 2.

Safe Drinking Water Act Compliance sampling from well #15 and well #16 have not shown the presence of any volatile organic compounds. Ms. Angela Cross of the New Mexico Environment Department Drinking Water Bureau was notified of this issue. On 23 Nov 99, Ms. Cross collected samples from well #15 for analysis of volatile organic compounds, semi-volatile organic compounds, and total petroleum hydrocarbons. Kirtland Air Force Base Bioenvironmental Engineering personnel also collected a sample at this time and requested the same analysis. To specifically determine if compounds related to JP-8 release were present in the groundwater, a sample of JP-8 was provided to the laboratory so that the analysis could be matched against the "fingerprint" of the JP-8 fuel. The water sample from well #15 did not display detectable concentrations of JP-8 petroleum hydrocarbon constituents or any other hydrocarbon constituents. A letter from the Kirtland Air Force Base Bioenvironmental Engineering group that summarizes the Safe Drinking Water Act compliance sampling from well #15 and well #16 as well as the 23 Nov 99 sampling event is provide in appendix C.

2. Potential Impact to Surface Water:

Based on the fact that discharge #1 and #3 were sub-surface releases and that stained surface soils resulting from discharge #2 have been removed, the potential for impact to surface waters is negligible.

3. Proposed Site Investigation:

A proposed site investigation plan summary is provided in appendix D. The proposed schedule for implementation of the investigation is as follows.

Prepare and submit draft Investigation Work Plan	24 Jan 00
Kirtland AFB and NMED review of draft Work Plan	24 Jan 00 - 4 Feb 00
Revise and submit final Investigation Work Plan	14 Feb 00
Investigation Field Work	13 Mar 00 - 7 Apr 00
Prepare and submit draft Investigation Report	30 May 00
Kirtland AFB review of draft Report	30 May 00 - 16 Jun 00
Revise and submit final Investigation Report	30 Jun 00

Once the extent of contamination is determined, KAFB will develop and implement an NMED GWQB approved corrective action/remediation plan.

December 06, 1999

Final Report Concerning Spill Response Activities Surrounding JP8 Release at Facility #2409

Report to: 377ABW/EMV
2050 Wyoming SE
Kirtland Air Force Base
Albuquerque, NM 87117

Report from: Doug Roshau
Rod Rodriguez, Inc.
7928 Ranchitos Loop NE
Albuquerque, NM 87113

At 1215 hours on November 12, 1999, staff from Rod Rodriguez, Inc (RRI) were called to respond to a JP8 spill at the JP8 off-loading ramp (facility #2409) near building #1039. At 1230 hours RRI staff arrived on scene and met with Environmental Management personnel to access the situation. Dropped off 5 x 55g 1A2 drums on site. Absorbent booms with JP8 were placed into the drums. The drums were marked and left in place for subsequent disposal. Environmental Management personnel decided soil excavation on the site could be left until Monday. The area was cordoned off with "Caution" tape.

At 0900 hours on November 15, 1999, Doug Roshau (DR) of RRI met with Robert Dray of Environmental Management to access the spill situation. Site drawing were observed in an effort to determine the location of two underground fuel pipes. Also, met with representatives of Civil Engineering, Base Safety, and the Fire Department. Everyone agreed to notify the Fire Department before digging any soil. Also all utilities in the area must be spotted. A bobcat with a backhoe attachment arrived on site at 1200 hours along with additional RRI staff. Begin excavating soil in area away from pipelines and utilities. Set up staging area for contaminated soil with poly sheeting. Completed excavation for the day at 1600 hours.

At 0830 hours on November 16, 1999, RRI staff arrived on site to continue soil excavation in the area away from utilities and pipelines. At 1400 hours soil excavation outside of utility and pipeline area was completed. Job was shut down because utility lines and pipelines had not been spotted. In addition, the pipeline had not yet been drained as was previously agreed upon. RRI staff left the site at 1530 hours.

At 1300 hours on November 17, 1999, DR of RRI was called upon to provide poly sheeting to the Civil Engineering Squadron as they removed soil in an attempt to expose the ruptured pipe. Arrived on scene, provided the poly sheeting, and conferred with EM,BS,CE and FD. Pulled profile sample from contaminated soil (Sample #9911171400). Subsequent analysis indicated Total Petroleum Hydrocarbons (TPH) of 14,500 Parts per Million (ppm). BTEX analytical indicate Benzene at 1.5 ppm, Ethylbenzene at 20 ppm, Toluene at 9.8 ppm and total Xylenes at 35 ppm. All contaminated soil was covered with poly sheeting. DR left the site at 1500 hours.

At 1230 hours on November 22, 1999, RRI staff returned to the spill site following authorization from Environmental Management personnel. Grossly contaminated soil was placed onto two large piles. A total of 76 cubic yards of soil was excavated and placed onto the two piles. The soil was covered with poly sheeting and left in place for subsequent disposal. RRI staff left the site at 1400 hours.

The contaminated soil was profiled for acceptance at Waste Management's Rio Rancho Land Farm Facility. At 0800 hours on December 03, 1999, DR of RRI met with Sunset Trucking to begin shipment of contaminated soils. In total .4 trucks each containing 19 cubic yards of soil, for a total of 76 cubic yards of soil was removed from the site. The area was cordoned off to prevent unauthorized access. DR left the site at 1300 hours.

Attached to this report are copies of the profile sheet, shipping manifests and analytical results. Please contact Doug Roshau of RRI at your earliest convenience concerning questions surrounding this report.



ANACHEM INC.

8 Prestige Circle, Suite 104 Allen, Texas 75002
972/727-9003 • FAX # 972/727-9686 • 1-800-966-1186

November 22, 1999

Doug Roshau
Perma-Fix of New Mexico, Inc.
7928 Ranchitos Loop, NE

Albuquerque, NM 87113
TEL: (505) 898-2440 FAX: (505) 898-1832

Work Order: 9911336
Project: Off-Loading Facility Cleanup

Dear Client:

Anachem, Inc. received 1 sample on 11/19/1999 for the analyses presented in the following report.

The samples were analyzed for the following tests:

BTEX by EPA 8021 - Solid
TPH by Texas 1005 - Solid

Respectfully Submitted,
Anachem, Inc.

Howard H. Hayden, B.S.
Chemist

NOTE: Submitted material will be retained for 60 days unless notified or consumed in analysis. Material determined to be hazardous will be returned. The use of our name and reports are for the exclusive use of the client to whom they are addressed. The use of our name must receive our prior written approval. Our letters and reports apply to the sample tested and/or inspected, and are not necessarily indicative of the qualities of apparently identical or similar materials.

Anachem, Inc.

Date: 22-Nov-99

CLIENT:	Perma-Fix of New Mexico, Inc.	Client Sample ID:	991117 1400
Work Order:	9911336	Location:	#2409, Kirtland AFB, NM
Project:	Off-Loading Facility Cleanup	Collection Date:	11/17/99
Lab ID:	9911336-01A	Matrix:	SOIL

Analyses	Result	Limit	Units	Date Analyzed
BTEX BY EPA 8021 - SOLID				
		Prep Date		Analyst: AT
Benzene	1.5	0.4	mg/Kg	11/19/99
Ethylbenzene	20	0.5	mg/Kg	11/19/99
Toluene	9.8	0.5	mg/Kg	11/19/99
Xylenes, Total	35	0.5	mg/Kg	11/19/99
TPH BY TEXAS 1005 - SOLID				
		Prep Date	11/19/99	Analyst: MP
T/R Hydrocarbons: C10-C28	9900	50	mg/Kg	11/19/99
T/R Hydrocarbons: C6-C10	4600	50	mg/Kg	11/19/99
T/R Hydrocarbons: C6-C28	14500	50	mg/Kg	11/19/99

Qualifiers: ND - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank

Anachem, Inc.

Date: 22-Nov-99

CLIENT: Perma-Fix of New Mexico, Inc.
Work Order: 9911336
Project: Off-Loading Facility Cleanup

QC SUMMARY REPORT

TPH by Texas 1005 - Solid		Units: mg/Kg			Analysis Date 11/19/99		
Analyte	SPK value	REC 1	REC 2	LowLimit	HighLimit	%RPD	RPDLimit
T/R Hydrocarbons: C10-C28	500	100.6%	114.0%	60%	140%	12.5%	30
T/R Hydrocarbons: C6-C10	500	111.8%	112.2%	60%	140%	0.4%	30

BTEX by EPA 8021 - Solid		Units: mg/Kg			Analysis Date 11/19/99		
Analyte	SPK value	REC 1	REC 2	LowLimit	HighLimit	%RPD	RPDLimit
Benzene	100	108.0%	109.0%	60%	140%	0.9%	30
Ethylbenzene	100	101.0%	103.0%	60%	140%	2.0%	30
Toluene	100	111.0%	112.0%	60%	140%	0.9%	30
Xylenes, Total	300	100.0%	101.0%	60%	140%	1.0%	30

Purchase Order/Chain Of Custody

Anachem, Inc. 8 Prestige Circle, Suite 104, Allen, TX 75002 Phone: 972-727-9003 Fax: 972-727-9686

Report To: <u>Dean Roshan</u>		Bill To: (Buyer) <u>ABF</u>		Analysis				
Company: <u>RRI/Perma-Fix of NM</u>		Purchase Order #: <u>AB53300</u>		IPRH BTEX X X				
Address: <u>7928 Ranchitos Ln NE</u>		Address:						
City, State, Zip: <u>Albuquerque, NM 87115</u>		City, State, Zip: <u>Same</u>						
Phone: <u>(505) 991-2274</u> Fax: <u>898-1832</u>		Phone: Fax:						
Project Name: <u>Off-Loading Facility Cleanup</u> Quote #:								
Project Location: <u>#2409</u>		City, State: <u>Kirtland AFB, NM</u>						
Date Due: Rush: 0% 25% 50% 100% Sampled By:								
Lab#	Client Sample ID	Matrix	Date/Time	Sample Notes				
<u>9911336-01</u>	<u>1.9911171400</u>	<u>SOIL</u>	<u>11/17/99 1400</u>	<u>#2409</u>				
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
Relinquished By	Date	Time	Received By	Date	Time	Sample Receipt Notes	In the event that Anachem determines that a sample is hazardous, the client agrees to: Pay For Sample Disposal _____ Accept Returned Sample _____ Submission # <u>9911336</u>	
<u>Deast</u>	<u>11/18/99</u>	<u>4:00pm</u>	<u>Curtis Cherry</u>	<u>11/18/99</u>	<u>4:00pm</u>	<u>Temperature on ice</u>		
			<u>Shad Thornhill</u>	<u>11/19/99</u>	<u>1:00</u>	<u>Preserved Properly</u>		
						<u>COC Seals Intact</u>		
						<u>Method of Shipment</u>		

Please print or type
(Form designed for use on elite (12-pitch) typewriter.)

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NM95700244Z3	Manifest Doc. No. CE001	2. Page 1 of 1
3. Generator's Name and Mailing Address Kirtland AFB 377AB.W/Emv Facility #2409 2050 Wyoming SE, Albuquerque, NM 87117				
4. Generator's Phone (505) 846-8546 Terry Cooper				
5. Transporter 1 Company Name SUNSET TRUCKING	6. US EPA ID Number	A. Transporter's Phone (505) 836-7020		
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone		
9. Designated Facility Name and Site Address WMI/Rio Rancho Landfill PO Box 15700 Rio Rancho, NM 87113		10. US EPA ID Number	C. Facility's Phone (505) 892-2055	
11. Waste Shipping Name and Description		12. Containers	13. Total Quantity	14. Unit Wt/Vol
a. Non-RCRA, Non-Regulated TAH Soil		No. Type		
			BK Yd 000.19	
b.				
c.				
d.				
D. Additional Descriptions for Materials Listed Above WMI Profile # C03827		E. Handling Codes for Wastes Listed Above		
15. Special Handling Instructions and Additional Information In Case of Emergency Call Perma-Fix of NM (505) 898-2440				
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.				
Printed/Typed Name Jackie Carnes		Signature Jackie JC		Month Day Year 12 03 99
17. Transporter 1 Acknowledgement of Receipt of Materials				
Printed/Typed Name [Signature]		Signature [Signature]		Month Day Year 12 03 99
18. Transporter 2 Acknowledgement of Receipt of Materials				
Printed/Typed Name		Signature		Month Day Year
19. Discrepancy Indication Space Far West Corner Cell 11 POA DS 53532				
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.				
Printed/Typed Name Cynthia Lopez		Signature [Signature]		Month Day Year 12 03 99

Please print or type
(Form designed for use on a 12-pitch typewriter.)

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NM9570024423	Manifest Doc. No. KE002	2. Page 1 of 1
3. Generator's Name and Mailing Address Kirtland AFB 2050 Wyoming SE, Albuquerque, NM 87117		377ABW/EMV Facility # 2409		
4. Generator's Phone (505) 846-8546		Terry Cooper		
5. Transporter 1 Company Name SUNSET TRUCKING	6. US EPA ID Number	A. Transporter's Phone (505) 836-7020		
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone		
9. Designated Facility Name and Site Address WMI/Rio Rancho Landfill PO Box 15700 Rio Rancho NM 87113		US EPA ID Number	C. Facility's Phone (505) 892-2055	
11. Waste Shipping Name and Description		12. Containers No. Type	13. Total Quantity	14. Unit W/Vol
a. Non-RCRA, Non-Regulated TPH Soil		19	cu BK Yd	19
b.				
c.				
d.				
D. Additional Descriptions for Materials Listed Above WMI Profile # C03827		E. Handling Codes for Wastes Listed Above		
15. Special Handling Instructions and Additional Information In Case of Emergency Call Perma-Fix of NM (505) 898-2440				
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.				
Printed/Typed Name Jackie J Carnes		Signature Jackie J Carnes		Month Day Year 12 3 99
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Vergil Mathis		Signature Vergil Mathis		Month Day Year 12 3 99
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Month Day Year
19. Discrepancy Indication Space Far West Corrosion Cell "D" PCH AB 53332				
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.				
Printed/Typed Name Cynthia Lopez		Signature Cynthia Lopez		Month Day Year 12 03 99

GENERATOR

TRANSPORTER

FACILITY

Please print or type
(Form designed for use on elite (12-pitch) typewriter.)

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NM95700Z4423	Manifest Doc. No. CE003	2. Page 1 of 1
3. Generator's Name and Mailing Address 2050 Wyoming SE Kirtland AFB, Albuquerque, NM 87117		377 ABW/EMV Facility #2409		
4. Generator's Phone (505) 846-3546		Terry Cooper		
5. Transporter 1 Company Name SUNSET TRUCKING	6. US EPA ID Number	A. Transporter's Phone (505) 836-7020		
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone		
9. Designated Facility Name and Site Address WMI/Rio Rancho Landfill PO Box 15700 Rio Rancho, NM 87113		10. US EPA ID Number	C. Facility's Phone (505) 892-2055	
11. Waste Shipping Name and Description		12. Containers No. Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-RCRA, Non-Regulated TAH SOIL		BK Yd	0019	
b.				
c.				
d.				
D. Additional Descriptions for Materials Listed Above WMI Profile # C03827		E. Handling Codes for Wastes Listed Above		
15. Special Handling Instructions and Additional Information In case of Emergency Call Perma-Fix of NM (505) 898-2440				
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.				
Printed/Typed Name Jackie J Carnes		Signature Jackie J Carnes		Month Day Year 12 3 99
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Lester M. (505)		Signature		Month Day Year 12 03 99
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Month Day Year
19. Discrepancy Indication Space Far west corner cell "D"				
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.				
Printed/Typed Name Cynthia Lopez		Signature C Lopez		Month Day Year 12 03 99

GENERATOR

TRANSPORTER

FACILITY

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Doc. No.	2. Page 1 of 1	
3. Generator's Name and Mailing Address		377 ABW/EMV Facility #2409			
Kirtland AFB 2050 Wyoming SE, Albuquerque, NM 87117					
4. Generator's Phone		505 846-8546 Terry Cooper			
5. Transporter 1 Company Name		6. US EPA ID Number		A. Transporter's Phone	
SUNSET TRUCKING				(505) 836-7020	
7. Transporter 2 Company Name		8. US EPA ID Number		B. Transporter's Phone	
9. Designated Facility Name and Site Address		10. US EPA ID Number		C. Facility's Phone	
WMI/Rio Rancho Landfill PO Box 15700 Rio Rancho NM 87113				(505) 892-2055	
11. Waste Shipping Name and Description				12. Containers	13. Total Quantity
				No.	Type
a. Non-RCRA, Non-Regulated TPH Soil				BK	Cu Yd 019
b.					
c.					
d.					
D. Additional Descriptions for Materials Listed Above				E. Handling Codes for Wastes Listed Above	
WMI Profile # C03827					
15. Special Handling Instructions and Additional Information					
In Case of Emergency Call Perma-Fix of NM (505) 898-2440					
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.					
Printed/Typed Name		Signature		Month	Day
Jackie J. Carnes		Jackie J. Carnes		12	3
Year				19	99
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name		Signature		Month	Day
Verell Mathis		Verell Mathis		12	3
Year				19	99
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed/Typed Name		Signature		Month	Day
19. Discrepancy Indication Space					
FA West Center to CEI/D					
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name		Signature		Month	Day
Cynthia Cooper		Cynthia Cooper			
Year					

GENERATOR

TRANSPORTER

FACILITY



DEPARTMENT OF THE AIR FORCE
877th CIVIL ENGINEER SQUADRON (AFMC)

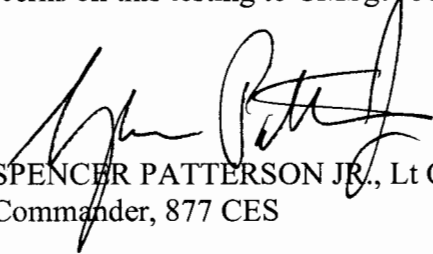
MEMORANDUM FOR: 377 ABW/EM

15 Dec 99

FROM: 877CES/CC

SUBJECT: Testing of Petroleum Lines (EMC Memo, 17 Nov 99)

1. We concur with your request to test the petroleum lines within the Bulk Storage facility. Our maintenance schedule mandated these test be conducted this year to support our five-year hydrostatic test requirement. We continue to strive to meet this goal.
2. Our Liquid Fuels maintenance technicians will complete integrity (hydrostatic) testing at 150 percent of operating pressure this month. Preliminary results indicate that of the six systems tested, only the two receiving suction lines failed to hold pressure. Immediately upon completion of the last test at the required pressure, test reports will be forwarded to your office. Please address your questions and concerns on this testing to CMSgt Joel Reinhard, Chief, Utility Infrastructure, at ext. 6-2454.


SPENCER PATTERSON JR., Lt Col, USAF
Commander, 877 CES



DEPARTMENT OF THE AIR FORCE
377 AEROSPACE MEDICINE SQUADRON (AFMC)

14 December 1999

MEMORANDUM FOR 377 ABW/EMC (Mr. Montano)

FROM: 377 AMDS/SGPB

SUBJECT: Sample Results – Wells #15 and #16

1. A records review of the Safe Drinking Water Act analysis file for Wells #15 and #16 was performed on 23 November 99. Currently, Wells #15 and #16 are undergoing baseline monitoring. As such, we are sampling for parameters that far exceed the requirements of the SDWA, particularly with respect to Volatile Organic Compounds (VOCs, EPA Method 502.2) and Synthetic Organic Compounds (SOCs, EPA Method 525.2). Our analysis has resulted in only a few detection of chemicals.

2. Listed below are the chemicals detected above the laboratory detection limit during our baseline monitoring. All units are in micrograms per liter (ug/L).

		<u>Well 15</u>	<u>Well 16</u>
Apr 99	Bromoform	1.00	0.8
	Dibromochloromethane	0.6	0.6
	Butylbenzylphthalate	0.05*	ND
	Diethylhexylphthalate	0.37*	0.45*
Jul 99	Butylbenzylphthalate	0.08*	0.26*
	Di(2-ethylhexyl)adipate	0.04*	ND
	Di(2-ethylhexyl)phthalate	0.43*	0.53*
	Dibutylphthalate	0.22	ND

* - Chemical also detected in method blank


ND – None Detected

3. On 23 November 1999, samples were collected by myself, along with Angela Cross from the New Mexico Environment Department, from KAFB Well #15. Samples were analyzed for Volatile Organic Compounds (VOCs) via EPA Method 624.2, Semi -Volatile Organic Compounds (SVOC) via EPA Method 8270, and Total Petroleum Hydrocarbons via EPA Method 8015 Modified. **Results for all analyses yielded no detections.** To specifically determine if compounds related to jet fuel (JP-8) were present in the groundwater, a representative sample of JP-8 was provided to the laboratory so that the petroleum hydrocarbon analysis could be matched against the petroleum hydrocarbon “fingerprint” of the fuel. **The water sample from Well #15 did not display detectable concentrations of JP-8 petroleum hydrocarbon constituents or any other hydrocarbon constituents.**

4. A sample was collected from KAFB Well #16 and analyzed for VOCs via EPA Method 624.2 in December 1999. The VOC analysis for Well #16 was incomplete at the time of this report.”

5. In Dec 98, samples were collected from Wells #15 and #16 and analyzed for SOCs, **no detections were noted.**

6. Please call me at 6-3553 if you have questions.


MICHAEL G. HAINES, 1Lt, USAF, BSC
Leader, Contract Management and Execution Branch

2294641

Here



Scientific Laboratory Division
700 Camino de Salud, NE (P.O. Box 4700)
Albuquerque, NM 87106 (87196-4700)
Phone: 505-841-2500/ -2570/ -2566



For SLD Use Only:

OR-99-02721

3 User Code: 515101010		Date & Time of Receipt at SLD: 99 NOV 23 PM 4:23		4 Sample Priority: <u>1</u> (If 2 call SLD)	
5 Submitter Code: 106101		WSS Code: NM35-16771011		User's Site ID: 1 W507164	
7 Facility or WSS Name: KILRTLAND AIR FORCE BASE WATER SYSTEM					
8 Facility/WSS Location: Complete 8, 9 & 10		9 County:		10 State: or CHANGE NM TO 1 1	
11 Sampling Location: WELL NO. 15					
12 Sample Collection: On: 11 / 23 / 99 By: CROISS Date: MM / DD / YY Last Name At: 14 : 51 ANGIELA FAYE Time: 24:00 Hour Clock First Name					
13 Sample Info. Contact: Ph: [505]-841-9474 If not collector, per box 12, Please print name here:					
14 Reports are mailed to the address specified by the Submitter Code and WSS Code (when present). However, if one of the following applies, please check <input checked="" type="checkbox"/> appropriate boxes below and complete address form. <input type="checkbox"/> Send additional Report to: Name: _____ <input type="checkbox"/> New Address for: Address: _____ <input type="checkbox"/> Submitter City: _____ State: _____ Zip: _____ <input type="checkbox"/> WSS / Client					
15 Sampling Documentation: (Check) <input type="checkbox"/> Confirmation <input checked="" type="checkbox"/> NMED Monitoring <input type="checkbox"/> Resample <input type="checkbox"/> Raw Water <input type="checkbox"/> Split w/ Facility <input type="checkbox"/> Finished Water <input type="checkbox"/> Grab Sample <input type="checkbox"/> Other: _____		16a Field Data: (When appropriate) <input type="checkbox"/> Sample is Chlorinated Chlorine Residual: _____ mG/L Conductivity: _____ uMhos/cm Sulfate: _____ mG/L Temperature on Collection: _____ °C		16b Field Remarks: SDWA Comments: (Optional) <input type="checkbox"/> Compliance SDWA Compositing: <input type="checkbox"/> No Compositing <input type="checkbox"/> Within This System Only <input type="checkbox"/> Within All Systems 1/4" spigot outside chlorine room. chlorine pump off. water warm to touch	
17 Sample Type: <input checked="" type="checkbox"/> Water <input type="checkbox"/> Vapor <input type="checkbox"/> Tissue <input type="checkbox"/> Other: <input type="checkbox"/> Liquid: <input type="checkbox"/> Solid: (Check <input checked="" type="checkbox"/> only one) <input type="checkbox"/> Soil <input type="checkbox"/> Plant <input type="checkbox"/> Blood					
18 Preservation: <input checked="" type="checkbox"/> Preserved with HCl to pH < 2 <input type="checkbox"/> No Preservation (Check <input checked="" type="checkbox"/> all that apply) <input checked="" type="checkbox"/> Stored at 4°C <input checked="" type="checkbox"/> Other: Vials Filled Completely				Number of Containers Submitted: <u>424</u> Bottles: _____ Vials: _____ Jars: _____	
19 Analyses Requested: Please Check <input checked="" type="checkbox"/> the appropriate box(es) below to indicate your analytical request(s):					
Volatile Screens: <input type="checkbox"/> (754) Aromatic & Halogenated Volatiles (EPA 8021) <input checked="" type="checkbox"/> (765) Mass Spectrometer Volatiles (EPA 8260 or 524.2) <input type="checkbox"/> (764) Appendix IX Mass Spectrometer VOCs (EPA 8260) <input type="checkbox"/> (774) Volatile Organic Compounds [VOC's] (EPA 502.2) <input type="checkbox"/> (766) SDWA Trihalomethanes (EPA 502.2) <input checked="" type="checkbox"/> 765 Mass Spectrometer Volatiles afe Remarks or Other Specific Compounds or Classes: <input type="checkbox"/> (____) _____ <input type="checkbox"/> (____) _____			Semivolatile Screens: <input type="checkbox"/> (789) Drinking Water Semivolatile Screens (Indented list) <input type="checkbox"/> (775) EDB, DBCP & TCP (EPA 504.1) <input type="checkbox"/> (758) Acid Herbicides (EPA 515.2) <input type="checkbox"/> (772) Carbamates (EPA 531.1) <input type="checkbox"/> (781) Glyphosate (EPA 547) <input type="checkbox"/> (782) Endothall (EPA 548.1) <input type="checkbox"/> (783) Diquat (EPA 549.1) <input type="checkbox"/> (788) SOC (EPA 525.2) <input type="checkbox"/> (771) Haloacetic Acids in Drinking Water (EPA 552.2) <input type="checkbox"/> (750) Hydrocarbon Fuel Screen, GRO (Modified EPA 8015) <input checked="" type="checkbox"/> (751) Hydrocarbon Fuel Screen, GRO/DRO (Mod. EPA 8015) <input type="checkbox"/> (752) Hydrocarbon Fuel Screen, DRO (Mod. EPA 8015) <input type="checkbox"/> (755) Base/Neutral Semivolatiles (No Phenols) (EPA 8270) <input type="checkbox"/> (756) Base/Neutral/Acids Semivolatiles (EPA 625/8270) <input type="checkbox"/> (759) Polychlorinated Biphenyls (PCBs) (EPA 8082) <input type="checkbox"/> (760) Organochlorine Pesticides (EPA 608/8081) <input type="checkbox"/> (786) Explosives Screen (Aberdeen Method)		
Special Extractions: <input type="checkbox"/> (784) TCLP Extraction, Volatiles (Method 1311) <input type="checkbox"/> (785) TCLP Extraction, Semivolatiles (Method 1311)					

SCIENTIFIC LABORATORY DIVISION

P.O. Box 4700
Albuquerque, NM 87196-4700

700 Camino de Salud, NE
[505] 841-2500

ORGANIC CHEMISTRY SECTION [505] 841-2570

REPORT TO CLIENT:

Sandia Laboratories

Division 77II / MS0651

P.O. Box 5800

Albuquerque, NM 87185

ED FIELD OFFICE:

Angela Faye Cross

NMED Dist #1 Office, Albuquerque

Drinking Water Bureau

4131 Montgomery Blvd, NE

Albuquerque, NM 87109

SLD No.: OR- 9902721

REQUEST ID No.: 2294641

RECEIVED AT SLD: 11/23/99

 SLD COPY

USER: 55000

 N.M.E.D. DRINKING WATER BUREAU

Gilbert Salas

NMED Drinking Water Bureau

525 Camino de Los Marquez

Suite 4

Santa Fe NM 87502

SAMPLE COLLECTION: DATE: 11/23/99 TIME: 1451 BY: Cross
SAMPLING LOCATION: Well No. 15
WSS #: NM3567701 REPORTING UNITS: ug/L

Remarks: Sample marked as preserved with Hydrochloric Acid.
No targeted compounds were detected in this sample.

EPA METHOD 524.2 SDWA VOLATILES BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY

DATE EXTRACTED: N/A
DATE ANALYZED: 11/29/99 6 Days: Within EPA Analysis Time
SAMPLE VOL (ml): 5

ANALYSIS No.: OR- 9902721
SLD BATCH No.: 407
DILUTION FACTOR: 1.00
REQUEST ID No.: 2294641

SAMPLE PRESERVATION: Sample Temperature when received: 20 Degrees C.; pH =2

CAS #	ANALYTE NAME	CONC. (ug/L)	QUAL.	SDL	MCL
71-43-2	Benzene		U	0.50	5
108-86-1	Bromobenzene		U	0.50	
74-97-5	Bromochloromethane		U	0.50	
75-27-4	Bromodichloromethane*		U	0.50	80
75-25-2	Bromoform*		U	0.50	80
74-83-9	Bromomethane		U	0.50	
78-93-3	2-Butanone (MEK)		U	5.00	
104-51-8	n-Butylbenzene		U	0.50	
135-98-8	sec-Butylbenzene		U	0.50	
98-06-6	tert-Butylbenzene		U	0.50	
1634-04-4	tert-Butyl methyl ether (MTBE)		U	5.00	
56-23-5	Carbon tetrachloride		U	0.50	5
108-90-7	Chlorobenzene (monochlorobenzene)		U	0.50	100
75-00-3	Chloroethane		U	0.50	
67-66-3	Chloroform*		U	0.50	80
74-87-3	Chloromethane		U	0.50	
95-49-8	2-Chlorotoluene		U	0.50	
106-43-4	4-Chlorotoluene		U	0.50	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)		U	0.50	0.2
124-48-1	Dibromochloromethane*		U	0.50	80
106-93-4	1,2-Dibromoethane (Ethylene dibromide (EDB))		U	0.50	0.05
74-95-3	Dibromomethane		U	0.50	
95-50-1	1,2-Dichlorobenzene (o-Dichlorobenzene)		U	0.50	600
541-73-1	1,3-Dichlorobenzene (m-Dichlorobenzene)		U	0.50	600
106-46-7	1,4-Dichlorobenzene (p-Dichlorobenzene)		U	0.50	75
75-71-8	Dichlorodifluoromethane		U	0.50	
75-34-3	1,1-Dichloroethane		U	0.50	
107-06-2	1,2-Dichloroethane		U	0.50	5
75-35-4	1,1-Dichloroethene		U	0.50	7

156-59-2	cis-1,2-Dichloroethene		U	0.50	70
156-60-5	trans-1,2-Dichloroethene		U	0.50	100
78-87-5	1,2-Dichloropropane		U	0.50	5
142-28-9	1,3-Dichloropropane		U	0.50	
594-20-7	2,2-Dichloropropane		U	0.50	
563-58-6	1,1-Dichloropropene		U	0.50	
1006-10-15	cis-1,3-Dichloropropene		U	0.50	
1006-10-26	trans-1,3-Dichloropropene		U	0.50	
100-41-4	Ethylbenzene		U	0.50	700
87-68-3	Hexachlorobutadiene		U	0.50	
98-82-8	Isopropylbenzene		U	0.50	
99-87-6	4-Isopropyltoluene		U	0.50	
75-09-2	Methylene chloride (Dichloromethane)		U	0.50	5
91-20-3	Naphthalene		U	0.50	
103-65-1	Propylbenzene		U	0.50	
100-42-5	Styrene		U	0.50	100
630-20-6	1,1,1,2-Tetrachloroethane		U	0.50	
79-34-5	1,1,2,2-Tetrachloroethane		U	0.50	
127-18-4	Tetrachloroethene		U	0.50	5
109-99-9	Tetrahydrofuran (THF)		U	5.00	
108-88-3	Toluene		U	0.50	1000
87-61-6	1,2,3-Trichlorobenzene		U	0.50	
120-82-1	1,2,4-Trichlorobenzene		U	0.50	70
71-55-6	1,1,1-Trichloroethane		U	0.50	200
79-00-5	1,1,2-Trichloroethane		U	0.50	5
79-01-6	Trichloroethene		U	0.50	5
75-69-4	Trichlorofluoromethane		U	0.50	
96-18-4	1,2,3-Trichloropropane		U	0.50	
95-63-6	1,2,4-Trimethylbenzene		U	0.50	
108-67-8	1,3,5-Trimethylbenzene		U	0.50	
75-01-4	Vinyl chloride		U	0.50	2
95-47-6	o-Xylene		U	0.50	
N/A	p- & m-Xylene		U	0.50	
N/A	*Total of Xylenes above*	0.0	U	0.50	10000
N/A	*Total of Trihalomethanes above*	0.0	U	0.50	100

Laboratory Remarks: None of the more volatile hydrocarbons associated with Jet Fuel JP-8 were observed in this sample.

LABORATORY BATCH QUALITY CONTROL SUMMARY			
SURROGATE RECOVERIES	SURROGATE COMPOUNDS	CONCENTRATION	% RECOVERY
	Dibromofluoromethane	5.6	112%
	1,2-Dichloroethane-d4	5.2	104%
	Toluene-d8	5.7	114%
	4-Bromofluorobenzene	5.0	99%
LABORATORY FORTIFIED BLANK RECOVERIES	The percent recoveries for compounds in the batch spike were within 80% to 120% with the exception of the compound(s) listed below:		
	COMPOUND	CONCENTRATION (µg/L)	% RECOVERY
	No Exceptions		
LABORATORY BLANKS	No target compounds were detected above the sample detection limit in laboratory blank with the exception of the compound(s) listed below:		
	COMPOUND	CONCENTRATION (µg/L)	
	No Exceptions		

Analyst: Michael Trujillo *MT* QC Approved By: Timothy Chapman *TJC*

DEFINITIONS

- ** Concentration Exceeds EPA's allowable Maximum Contamination Level
- CAS# Chemical Abstract Services Number - Unique number to help identify analytes listed by different names
- CONC. Concentration (ug/L) of analyte actually detected in the sample
- QUAL Qualifier of analytical results as follows:
 - B Analyte was detected in laboratory blank
 - J Analyte was detected at a level below which an accurate quantitation can be given ($-5 \times$ SDL)
 - U No analyte was detected above the Sample Detection Limit.
- MCL Maximum Contamination Level Allowed by EPA for SDWA regulated analytes
- SDL Sample Detection Limit - The lowest concentration which can be differentiated from Zero with 99% confidence taking sample size (compositing) into account.
- ug/L Concentration Units - micrograms per liter which is approximately equivalent to Parts Per Billion (ppb)

SCIENTIFIC LABORATORY DIVISION

P.O. Box 4700
Albuquerque, NM 87196-4700700 Camino de Salud, NE
[505] 841-2500

ORGANIC CHEMISTRY SECTION (505) 841-2570

FIELD OFFICE:

Angela Cross
NMED Dist #1 Office, Albuquerque
Drinking Water Bureau
4131 Montgomery Blvd, NE
Albuquerque, NM 87109

SLD No.: OR- 9902720

REQUEST ID No.: 2294642

RECEIVED AT SLD: 11/23/99

 SLD COPY

USER: 55000

REPORT TO CLIENT: N.M.E.D. DRINKING WATER BUREAU

Sandia Labs Div. 771/MS0651
P.O. Box 5800
Albuquerque, NM 87185

Richard Asbury
Drinking Water Bureau
NM-ED Dist. #3 Office
1001 N. Solano Drive
Las Cruces, NM 88001

SAMPLE COLLECTION: DATE: 11/23/99 TIME: 1451 BY: CROSS

SAMPLING LOCATION: WELL NO 15

WSS #: NM3567701

SAMPLE MATRIX: water

REPORTING UNITS: ug/L

EPA METHOD 8270 Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry

DATE EXTRACTED: 11/29/99 6 Days: Within EPA Holding Time

DATE ANALYZED: 12/2/99 9 Days: Within EPA Analysis Time

SAMPLE VOL (ml): 950

ANALYSIS No.: OR- 9902720

SLD BATCH No.: 410

DILUTION FACTOR: 1.05

REQUEST ID No.: 2294642

SAMPLE PRESERVATION: Sample Temperature when received: 18 Degrees C.; pH = <2

EXTRACTION TECHNIQUE: Separatory Funnel

PERCENT MOISTURE: N/A

GPC CLEANUP: Not Used

ANALYSIS NOTES:

CAS #	ANALYTE NAME	CONC. (ug/L)	QUAL	SDL
83-32-9	Acenaphthene		U	0.31
208-96-8	Acenaphthylene		U	0.31
15972-60-8	Alachlor		U	1.23
309-00-2	Aldrin		U	0.74
120-12-7	Anthracene		U	0.31
1912-24-9	Atrazine		U	0.35
103-33-3	Azobenzene		U	1.89
319-86-8	d-BHC		U	0.42
319-84-6	a-BHC		U	0.42
65-85-0	Benzoic acid		U	0.69
56-55-3	Benzo(a)anthracene		U	0.31
205-99-2	Benzo(b)fluoranthene		U	1.04
207-08-9	Benzo(k)fluoranthene		U	0.78
191-24-2	Benzo(g,h,i)perylene		U	0.24
50-32-8	Benzo(a)pyrene		U	0.95
100-51-6	Benzyl alcohol		U	0.34
111-91-1	Bis(2-chloroethoxy)methane		U	0.32
111-44-4	Bis(2-chloroethyl)ether		U	0.42
108-60-1	Bis(2-chloroisopropyl)ether		U	2.63
117-81-7	Bis(2-ethylhexyl)phthalate		U	0.83
101-55-3	4-Bromophenylphenyl ether		U	0.42
85-68-7	Butylbenzyl phthalate		U	0.67
5103-71-9	cis-Chlordane		U	0.57
5103-74-2	trans-Chlordane		U	0.80
106-47-8	4-Chloroaniline		U	0.43
91-58-7	2-Chloronaphthalene		U	0.43
59-50-7	4-Chloro-3-methylphenol		U	0.25
95-57-8	2-Chlorophenol		U	0.34
7005-72-3	4-Chlorophenylphenyl ether		U	0.34
218-01-9	Chrysene		U	0.31
72-54-8	4,4'-DDD		U	0.38
72-55-9	4,4'-DDE		U	0.20
50-29-3	4,4'-DDT		U	0.75
53-70-3	Dibenz(a,h)anthracene		U	0.28
132-64-9	Dibenzofuran		U	0.26
84-74-2	Di-n-butyl phthalate		U	0.42
95-50-1	1,2-Dichlorobenzene		U	0.31
541-73-1	1,3-Dichlorobenzene		U	0.31
106-46-7	1,4-Dichlorobenzene	0.4	J	0.22
91-94-1	3,3'-Dichlorobenzidine		U	0.31
120-83-2	2,4-Dichlorophenol		U	2.74
60-57-1	Dieldrin		U	0.42
84-66-2	Diethylphthalate		U	0.35
105-67-9	2,4-Dimethylphenol		U	0.35

131-11-3	Dimethyl phthalate	U	0.47
534-52-1	4,6-Dinitro-2-methylphenol	U	2.37
51-28-5	2,4-Dinitrophenol	U	1.14
121-14-2	2,4-Dinitrotoluene	U	0.49
606-20-2	2,6-Dinitrotoluene	U	0.18
117-84-0	Di-n-octyl phthalate	U	1.53
72-20-8	Endrin	U	0.66
7421-93-4	Endrin aldehyde	U	0.65
949-98-8	Endosulfan I	U	0.58
33213-65-9	Endosulfan II	U	0.58
1031-07-8	Endosulfan sulfate	U	0.38
206-44-0	Fluoranthene	U	0.35
86-73-7	Fluorene	U	0.51
76-44-8	Heptachlor	U	0.65
1024-57-3	Heptachlor epoxide	U	0.60
118-74-1	Hexachlorobenzene	U	0.52
87-68-3	Hexachlorobutadiene	U	0.25
77-47-4	Hexachlorocyclopentadiene	U	0.42
67-72-1	Hexachloroethane	U	0.22
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.95
78-59-1	Isophorone	U	0.29
319-86-8	Lindane (γ-BHC)	U	0.85
118-74-1	Methoxychlor	U	0.81
91-57-6	2-Methylnaphthalene	U	0.22
95-48-7	2-Methylphenol	U	0.34
106-44-5	4-Methylphenol	U	0.44
91-20-3	Naphthalene	U	0.25
88-74-4	2-Nitroaniline	U	0.34
99-09-2	3-Nitroaniline	U	0.31
100-01-6	4-Nitroaniline	U	1.13
98-95-3	Nitrobenzene	U	0.60
88-75-5	2-Nitrophenol	U	0.35
100-02-7	4-Nitrophenol	U	3.77
86-30-6	N-nitrosodiphenylamine	U	0.49
62-75-9	N-nitrosodimethylamine	U	0.60
621-64-7	N-nitroso-di-n-propylamine	U	0.65
87-86-5	Pentachlorophenol	U	0.58
85-01-8	Phenanthrene	U	0.33
108-95-2	Phenol	U	0.35
129-00-0	Pyrene	U	0.42
122-34-9	Simazine	U	0.42
120-82-1	1,2,4-Trichlorobenzene	U	2.33
95-95-4	2,4,5-Trichlorophenol	U	2.33
88-06-2	2,4,6-Trichlorophenol	U	1.47

QUALITY CONTROL SUMMARY				
	Surrogate compounds added to sample before extraction to determine extraction efficiency	Surrogate Recovered	% RECOVERY	QC Eval.
SURROGATE RECOVERIES	Nitrobenzene-d5 (Neutral Surrogate added at 25ug/L)	20.6	82%	Normal
	2-Fluorobiphenyl (Neutral Surrogate added at 25ug/L)	21.7	87%	Normal
	Terphenyl-d14 (Neutral Surrogate added at 25ug/L)	28.5	114%	Normal
	Phenol-d6 (Acid Surrogate added at 50 ug/L)	23.9	48%	Normal
	2-Fluorophenol (Acid Surrogate added at 50 ug/L)	16.2	32%	Low
	2,4,6-Tribromophenol (Acid Surrogate added at 50ug/L)	45.1	90%	Normal
LABORATORY FORTIFIED BLANK RECOVERIES	The recoveries of target analytes in the batch spike(s) were within the expected range with the following exceptions:			
	COMPOUND	CONCENTRATION	RECOVERY	
	No Exceptions			
	Phenol	20.52 ug/L	41%	
	4-Nitrophenol	15.38 ug/L	31%	
LABORATORY BLANKS	No target analytes were detected above the sample detection limit in laboratory blank with the exception of the compound(s) listed below:			
	COMPOUND	CONCENTRATION (ug/L)		
	1,4-Dichlorobenzene	0.4		

LABORATORY REMARKS: This analysis includes the organochlorine pesticides specified in EPA Method 625 excluding PCBs.

Analyst: Brian Keller *BK* QC Approved By: Timothy H. Chapman

DEFINITIONS

** Concentration Exceeds EPA's allowable Maximum Contamination Level
CAS# Chemical Abstract Services Number - Unique number to help identify analytes listed by different names
CONC. Concentration (ug/L) of analyte actually detected in the sample
QUAL Qualifier of analytical results as follows:
B Analyte was detected in laboratory blank
J Analyte was detected at a level below which an accurate quantitation can be given (-5 * SDL)
U No analyte was detected above the Sample Detection Limit
MCL Maximum Contamination Level Allowed by EPA for regulated analytes
SDL Sample Detection Limit - The lowest concentration which can be differentiated from Zero with 99% confidence taking sample size (compositing) into account.
ug/L Concentration Units - micrograms per liter which is approximately equivalent to Parts Per Billion (ppb)

2294642

etc

OR

Scientific Laboratory Division
700 Camino de Salud, NE (P.O. Box 4700)
Albuquerque, NM 87106 (87196-4700)
Phone: 505-841-2500/ -2570/ -2566

OR

For SLD Use Only:
OR-91-02720

3 User Code: 1515101010	Date & Time of Receipt at SLD: 99 NOV 23 PM 4:23	4 Sample Priority: <u>1</u> If 1 or 2 call SLD
-------------------------	--	--

5 Submitter Code: 10610	WSS Code: NM35 - 16771011	User's Site ID: 11 W50764	6 Sample Temp. Receipt @ SLD: 18 °C
-------------------------	---------------------------	---------------------------	-------------------------------------

7 Facility or WSS Name: KIRTLAND AIR FORCE BASE WATER SYSTEM

Facility/WSS Location: Complete 8, 9 & 10	8 County:	9 City:	10 State: or CHANGE NM TO
---	-----------	---------	---------------------------

11 Sampling Location: WELL NO. 15

12 Sample Collection: On: 11 / 23 / 99 By: C R I O S S
Date: MM / DD / YY Last Name
At: 7:51 14:51 A N G I E L I A F I A Y E
Time: 24:00 Hour Clock First Name

13 Sample Info. Contact: Ph: [505]-841-9474
If not collector, per box 12, Please print name here:

14 Reports are mailed to the address specified by the Submitter Code and WSS Code (when present). However, if one of the following applies, please check appropriate boxes below and complete address form.

Send additional Report to: Name: _____

New Address for: Address: _____

Submitter City: _____ State: _____ Zip: _____

WSS / Client

15 Sampling Documentation: (Check) <input type="checkbox"/> Confirmation <input checked="" type="checkbox"/> NMED Monitoring <input type="checkbox"/> Resample <input type="checkbox"/> Raw Water <input type="checkbox"/> Split w/ Facility <input type="checkbox"/> Finished Water <input type="checkbox"/> Grab Sample <input type="checkbox"/> Other: _____	16a Field Data: (When appropriate) <input type="checkbox"/> Sample is Chlorinated Chlorine Residual: _____ mG/L Conductivity: _____ uMhos/cm Sulfate: _____ mG/L Temperature on Collection: _____ °C	16b Field Remarks: (Optional) 1/2" 1/4" spigot outside of chlorination room, Chlorine pump off, Water warm to touch	SDWA Comments: <input type="checkbox"/> Compliance SDWA Compositing: <input type="checkbox"/> No Compositing <input type="checkbox"/> Within This System Only <input type="checkbox"/> Within All Systems
--	---	--	--

17 Sample Type: Water Vapor Tissue Other: Liquid: Solid:
(Check only one) Soil Plant Blood

18 Preservation: Preserved with HCl to pH < 2 No Preservation Other: Vials Filled Completely
(Check all that apply) Stored at 4°C
Number of Containers Submitted: Bottles: 3 Vials: _____ Jars: _____

19 Analyses Requested: Please Check the appropriate box(es) below to indicate your analytical request(s):

<p>Volatile Screens:</p> <p><input type="checkbox"/> (754) Aromatic & Halogenated Volatiles (EPA 8021)</p> <p><input checked="" type="checkbox"/> (765) Mass Spectrometer Volatiles (EPA 8260 or 524.2)</p> <p><input type="checkbox"/> (764) Appendix IX Mass Spectrometer VOCs (EPA 8260)</p> <p><input type="checkbox"/> (774) Volatile Organic Compounds [VOC's] (EPA 502.2)</p> <p><input type="checkbox"/> (766) SDWA Trihalomethanes (EPA 502.2)</p> <p>Remarks or Other Specific Compounds or Classes:</p> <p><input type="checkbox"/> (____) _____</p> <p><input type="checkbox"/> (____) _____</p> <p>Special Extractions:</p> <p><input type="checkbox"/> (784) TCLP Extraction, Volatiles (Method 1311)</p> <p><input type="checkbox"/> (785) TCLP Extraction, Semivolatiles (Method 1311)</p>	<p>Semivolatile Screens:</p> <p><input type="checkbox"/> (789) Drinking Water Semivolatile Screens (Indented list)</p> <p><input type="checkbox"/> (775) EDB, DBCP & TCP (EPA 504.1)</p> <p><input type="checkbox"/> (758) Acid Herbicides (EPA 515.2)</p> <p><input type="checkbox"/> (772) Carbamates (EPA 531.1)</p> <p><input type="checkbox"/> (781) Glyphosate (EPA 547)</p> <p><input type="checkbox"/> (782) Endothall (EPA 548.1)</p> <p><input type="checkbox"/> (783) Diquat (EPA 549.1)</p> <p><input type="checkbox"/> (788) SOC (EPA 525.2)</p> <p><input type="checkbox"/> (771) Haloacetic Acids in Drinking Water (EPA 552.2)</p> <p><input type="checkbox"/> (750) Hydrocarbon Fuel Screen, GRO (Modified EPA 8015)</p> <p><input type="checkbox"/> (751) Hydrocarbon Fuel Screen, GRO/DRO (Mod. EPA 8015)</p> <p><input type="checkbox"/> (752) Hydrocarbon Fuel Screen, DRO (Mod. EPA 8015)</p> <p><input type="checkbox"/> (755) Base/Neutral Semivolatiles (No Phenols) (EPA 8270)</p> <p><input checked="" type="checkbox"/> (756) Base/Neutral/Acids Semivolatiles (EPA 625/8270)</p> <p><input type="checkbox"/> (759) Polychlorinated Biphenyls (PCBs) (EPA 8082)</p> <p><input type="checkbox"/> (760) Organochlorine Pesticides (EPA 608/8081)</p> <p><input type="checkbox"/> (786) Explosives Screen (Aberdeen Method)</p>
---	---

Investigation at KAFB Fuels Management Facility

TO: Jerry Sillerud/KAFB

COPIES: Mark Holmes/KAFB
Pat Montañaño/KAFB
Amy Halloran/CH2M HILL
Tom Simpkin/CH2M HILL

FROM: Sharon Minchak

DATE: December 10, 1999

This memo outlines possible investigation activities to address the soil contamination that has been identified at the Kirtland AFB Fuels Management Facility. A summary of possible activities and assumptions associated with each of the tasks is presented below. Estimates of costs and labor hours associated with each task are presented in the attached Excel spreadsheets.

Task 1 - Project Management

This task will involve general project management and coordination activities associated with implementation of this investigation, such as subcontracting required vendors, attending meetings, preparing a site health and safety plan, interacting with regulators, and preparing progress reports.

Task 2 - Work Plan Preparation

This task will involve preparation of the investigation Work Plan that will be submitted to the New Mexico Environment Department (NMED) Ground Water Quality Bureau (GWQB). The Work Plan will present the proposed investigation activities including location and number of boreholes to be advanced, number of samples to be collected, analytical parameters that will be analyzed, and general investigation and sample collection procedures. A modified version of the NMED Hazardous and Radioactive Materials Bureau (HRMB) Work Plan format used for Kirtland AFB Environmental Restoration sites will be used, with changes made to reflect the needs and requirements of the NMED GWQB. A draft Work Plan will be prepared and submitted to Kirtland AFB for review and comment. A final Work Plan, incorporating comments from Kirtland AFB, will then be prepared for submission to the NMED.

Assumptions

- It is assumed that only one draft Work Plan and response to comments will be required prior to preparation of the final Work Plan.
- It is assumed that 10 copies of the final Work Plan will need to be provided.

Task 3 - Field Investigation

The field investigation associated with this project will be a phased approach involving a soil gas survey followed by advancing several boreholes across the site and collecting soil samples in areas that could be sources of historic petroleum product discharges. These areas include the Offloading Rack; the area of the November 1999 JP8 release; the pump house (Building 1033) area where soil contamination was identified in previous Appendix III investigations; and the lengths of the 14-inch-diameter below-ground transfer lines that convey fuel from the Offloading Rack to the pump house.

The initial phase of the field investigation will be a soil gas survey. The approximately 250-ft by 100-ft area surrounding the Offloading Rack, the approximately 150-ft by 150-ft area surrounding the pump house (Bldg. 1033), and the approximately 250-ft by 125-ft area between the pump house and the aboveground storage tanks will be surveyed. A direct-push drill technique will be used to advance a probe to approximately 10 to 12-feet below ground surface (bgs) and a soil gas sample will be collected and analyzed immediately by an onsite laboratory. Soil gas samples will be analyzed for a standard suite of volatile organic compounds including benzene, toluene, ethylbenzene, xylenes, total volatile petroleum hydrocarbons, and chlorinated solvents. The soil gas sample locations will initially be set up at a rough grid spacing of approximately 50-feet by 50-feet. Based on soil gas results reported during the survey the grid spacing may be expanded or tightened in areas of interest. Approximately 60 to 75 soil gas samples are anticipated to be collected and analyzed by the onsite laboratory.

Following the soil gas survey, multiple boreholes will be installed in the Offloading Rack area, the November 1999 spill area, and the pump house area in an attempt to delineate the horizontal and vertical extent of possible contamination in those areas. This will be accomplished by advancing one deep vertical boring using the direct push drilling method in the center of the Offloading Rack area and the November 1999 spill area to identify the maximum vertical extent of contamination and installing lateral borings around the sides of each area to constrain the horizontal extent of contamination. In the pump house area the vertical extent of contamination has been partially delineated during previous Appendix III investigations. However, one additional deep boring will be advanced in the area between previous borings ST341C-02, -06, and -08 to establish the maximum vertical extent of contamination at the location of the highest shallow soil contamination associated with the pump house. The deep central boring in the pump house area will be installed using a hollow stem auger drilling method and is anticipated to be up to 100 feet in depth. In addition to the deep vertical delineation boring in the pump house area additional lateral borings will also be installed to constrain the horizontal extent of contamination. Soil boring sample locations may be added, removed, or moved based on the results of the soil gas survey that will be conducted first.

The length of the 14-inch diameter transfer lines between the Offloading Rack area and the pump house will be investigated by installing borings at 50-foot intervals to determine if discharges from those lines have occurred. The number of borings installed along the lengths of transfer piping will be contingent on the findings of the soil gas survey. If the soil gas survey does not indicate the presence of contaminants in the pipeline area the number of soil borings installed along the lengths may be reduced to only one or two confirmatory borings.

Soil samples will be collected from all boreholes at 5-foot intervals. Soil samples will be screened in the field with a photoionization detector and borings will be advanced until two consecutive 5-foot intervals display a ~ 0 parts per million (ppm) headspace reading. Two soil

samples will be collected from each boring location for laboratory analysis, one from the interval that displayed the maximum headspace reading and one from the deepest sample interval collected. All soil samples will be analyzed for total petroleum hydrocarbons (TPH) and benzene, toluene, ethylbenzene, and xylenes (BTEX). Furthermore, one sample from each deep central borehole in a given area, and one sample from each borehole collected along the length of the transfer lines will be analyzed for semi-volatile organic compounds (SVOCs). The samples selected for SVOC analyses will be based on TPH concentrations.

Assumptions

- A soil gas survey will be conducted across the site and soil gas samples will be analyzed immediately by an onsite laboratory. Approximately 60 to 75 soil gas samples are anticipated to be collected and analyzed.
- Four main potential source areas would be investigated at the site: the area of the November 1999 spill, the Offloading Rack area, the pump house area (immediately west of Building 1033), and the length of the dual 14-inch-diameter belowgrade transfer lines that run from the Offloading Rack area to the pump house. Borings would be advanced using a direct push drill rig or a hollow stem auger drill rig.
- A total of 20 boreholes are proposed and it is assumed that approximately 5 additional lateral borings will need to be installed in various locations to further step out from different areas in an attempt to delineate the horizontal extent of contamination. The depths of the deep central vertical delineation borings in the Offloading Rack and November 1999 spill areas are assumed to be approximately 40 feet below ground surface (bgs), with a total of 2 soil samples collected per boring. The depth of the vertical delineation boring in the pump house area is assumed to be up to 100 feet bgs. The depths of the lateral horizontal delineation borings are assumed to be approximately 30 feet bgs, with a total of 2 soil samples collected per boring.
 - Five boreholes will be advanced in the area of the November 1999 spill – one deep central boring and four lateral borings to the north, south, east, and west of the spill area.
 - Four boreholes will be advanced in the Offloading Rack area – one deep central boring and three lateral borings, to the northwest, southwest, and southeast. It is assumed that the lateral borings that will be installed around the November 1999 spill area will also contribute to constraining the lateral extent of contamination associated with the Offloading Rack.
 - Five boreholes will be advanced in the pump house area – one deep central boring and four lateral borings to the north, south, west, and east. These borings will delineate the extent of contamination identified during previous Appendix III investigations in the area.
 - A soil boring will be advanced every 50 feet along the length of 14-inch-diameter belowground lines that transfer fuel from the Offloading Rack area to the pump house, for a total of 6 borings. The length of the lines is approximately 300 feet. There are two transfer lines but it is assumed that the lines are immediately adjacent to each other and can be investigated at the

same time. Each boring is anticipated to be approximately 30-feet bgs. The final number of borings installed along the length of the lines will be contingent on the findings of the soil gas survey.

- All soil samples will be analyzed for TPH and BTEX. In addition, select samples from certain boreholes, as indicated above, will be analyzed for SVOCs. A total of approximately 50 samples plus Quality Assurance/Quality Control (QA/QC) samples will be analyzed for TPH and BTEX. A total of approximately 18 soil samples plus QA/QC will be analyzed for SVOCs.
- The horizontal location of all soil borings will be surveyed.

Task 4 - Report Preparation

Following the conclusion of the field investigation activities and receipt of all sample data, an investigation report will be prepared. As with the Work Plan, a modified format of the NMED HRMB report format will be used with changes made to reflect the needs and requirements of the NMED GWQB. A draft Investigation Report will be prepared and submitted to Kirtland AFB for review and comment. A final Investigation Report, incorporating comments from Kirtland AFB, will then be prepared for submission to the NMED.

Assumptions

- It is assumed that only one draft Investigation Report and response to comments will be required prior to preparation of the final Work Plan.
- It is assumed that 10 copies of the final Investigation Report will need to be provided.

Schedule

A proposed schedule for the conducting the KAFB Fuels Management Facility Investigation tasks is presented below:

Prepare and submit draft Investigation Work Plan	January 24, 2000
Kirtland AFB and NMED review of draft Work Plan	January 24 - February 4, 2000
Revise and submit final Investigation Work Plan	February 14, 2000
Investigation Field Work	March 13 - April 7, 2000
Prepare and submit draft Investigation Report	May 30, 2000
Kirtland AFB review of draft Report	May 30 - June 16, 2000
Revise and submit final Investigation Report	June 30, 2000

KAFB BULK FUELS MANAGEMENT FACILITY

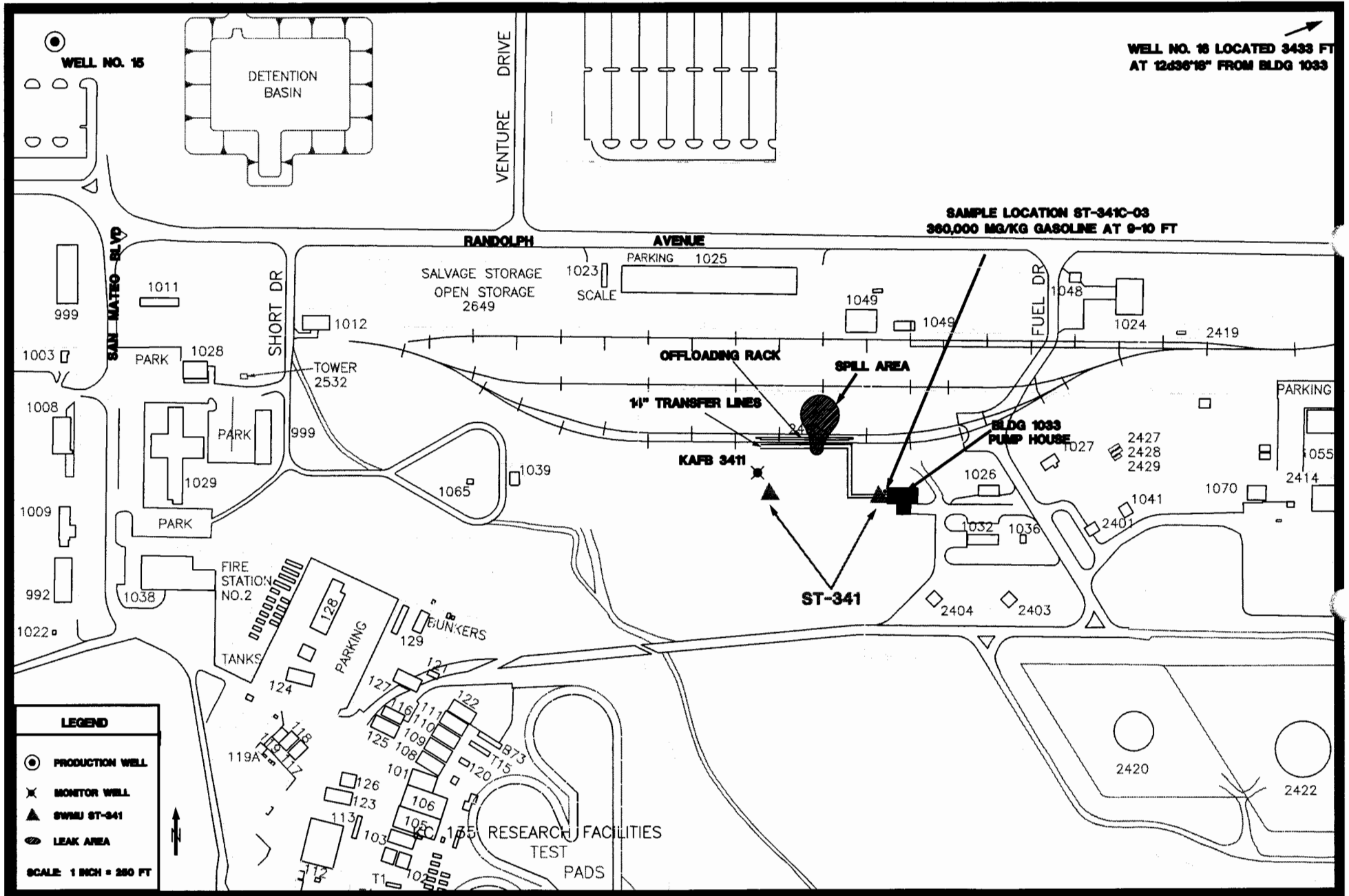


FIGURE 1

SCHEDULE 40 2-1/2" GAGE LINE
WITH SCREW CAP. WELD STRAP TO
SCREW CAP AND GAGE LINE.

PUMP DISCHARGE BASE
2" SCHEDULE 40 GRAVEL FEED LINE
WITH SCREW CAP, WELD STRAP TO
SCREW CAP AND GRAVEL FEED LINE
1/2" PREFORMED EXPANSION JOIN
ALL AROUND.

SEE SHEET S1

Figure 2

Kirtland Air Force Base

Drinking Water Wells #15 and #16

Well Details

From As Built Drawings

FACE OF
CASING

2 1/2" GAGE
LINE

18"
CUT-SECTION

WELL NO. 16: 1500' DEPTH
WELL NO. 15: 1511' DEPTH

WELL NO. 16: 690'
WELL NO. 15: 680'

APPROXIMATELY 800'

10' BLANK
WELL CASING

100'
SURFACE LINER

38" OD REAMED HOLE

3" CEMENT/BENTONITE GROUT
AROUND SURFACE LINER

32" O. D. SURFACE LINER
3/8" WALL THICKNESS

18" O. D. WELL CASING
3/8" WALL THICKNESS

CEMENT/BENTONITE
GROUT TO SURFACE

CENTERING GUIDE
ABOVE TOP OF WELL
SCREEN SEE DETAIL

3'-0" LAYER OF
BENTONITE PELLETS

20'
STATIC LEVEL
FROM SURFACE

30" O. D. REAMED HOLE

GRAVEL PACK
GRADATION FIELD DETERMINED

18" O. D. WELL CASING
3/8" WALL THICKNESS

18" TYPE 304, EXTRA HEAVY DUTY
STAINLESS STEEL SCREEN
SLOT SIZE FIELD DETERMINED

CENTERING GUIDE
(SEE DETAIL)

WELL DETAILS

N. T. S.

