3R - 249

GENERAL CORRESPONDENCE

YEAR(S): 1998

P. O. Box 1980
Hobbs, NM 88241-1980
District II - (505) 748-1283
811 South First
Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Road
Aztec, NM 87410
District IV - (505) 827-7131

State of New Mexico
Energy Minerals and Natural Resources Department
Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

Form C-141
Originated 2/13/97

Submit 2 copies to Appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☐ Final Report

Name	Contact
Four-Four Inc.	Mike Hall
Address	**Telephone No.**
3000 Bloomfield Hwy. Farmington, NM 87401	505-327-2711
Facility Name	**Facility Type**
N/A	N/A

Surface Owner	Mineral Owner	Lease No.
BLM/BOR	BLM/BOR	N/A

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
H	24	29N	8W	N/A	N/A	N/A	N/A	San Juan

NATURE OF RELEASE

Type of Release	Volume of Release	Volume Recovered
Diesel, New and Used Oil	approx. 800 gallons	approx. 760 gallons
Source of Release	**Date and Hour of Occurrence**	**Date and Hour of Discovery**
Field Service Vehicle Overturned	10/27/98 1314	10/27/98 1314
Was Immediate Notice Given? [XX] Yes ☐ No ☐ Not Required	**If YES, To Whom?**	District II Office
By Whom?	**Date and Hour**	Unknown 10/28/98
Was a Watercourse Reached? [XX] Yes ☐ No	**If YES, Volume Impacting the Watercourse.**	800 gallons

If a Watercourse was Impacted, Describe Fully. (Attach Additional Sheets If Necessary)

See attached sheets

RECEIVED
NOV 19 1998
OIL CON. DIV.
DIST. 3

Describe Cause of Problem and Remedial Action Taken. (Attach Additional Sheets If Necessary)

See attached sheets

Describe Area Affected and Cleanup Action Taken. (Attach Additional Sheets If Necessary)

See attached sheets

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: Mike Hall	OIL CONSERVATION DIVISION
Printed Name: Mike Hall	Approved by District Supervisor: Denny G. Foust for Frank Chavez
Title: General Office Manager	Approval Date: 11/23/98 Expiration Date:
Date: 11/17/98 Phone: (505) 327-2711	Conditions of Approval: Previously filed on wrong form. Attached ☐

ON SITE
TECHNOLOGIES, LTD.

On October 27, 1998 at approximately 2:00 PM during a heavy rainstorm, a field service truck belonging to Four-Four Inc., had overturned on a curve on State Route 539 approximately one half-mile south of the Navajo Dam, at the top of a steep slope running from south to north. Approximately 600 gallons of diesel and 200 gallons of new and used oil were spilled on to the roadway. The diesel and oil traveled down the east side of the roadway to a pond used for the watering of wildlife. and also traveled down the west side of the road to retention dams that were constructed to prevent migration off site of the product. The product covered approximately two-thirds of the water surface of the pond. Underflow pipes were placed in the retention dams to eliminate the water, while containing the product.

The diesel and oil on the pond surface was vacuumed. Due to continuing heavy rain, potentially contaminated water was also vacuumed from the pond to prevent overtopping of the impoundment berm. Approximately 13,000 gallons of water, diesel and oil was removed from the pond. The diesel and oil that remained on the surface of the pond and the retention dams, was covered with SphagSorb® absorbent to encapsulate and prevent further contamination.

The spent absorbent from the pond and retention dams was removed using pool skimmers and placed into a lined containment for proper disposal.

Water samples were taken from the pond, placed in laboratory supplied containers, and labeled for transportation to ***On Site Technologies***' laboratory for analysis per EPA Method 8020 BTEX and Naphthalene, Oil and Grease per EPA Method 413.2. To prevent any wildlife from drinking from the pond, a temporary fence was placed around the pond, until laboratory analysis of the pond water samples are completed.

The soils at the site were tightly packed clays that prevented the diesel and oil from being absorbed. Contaminated surface soils from both sides of the roadway, were excavated and placed into a lined containment for future disposal. Soil samples were taken from the runoff area, field screened using the Heated Headspace Method, with Organic Vapor Monitor with Photoionzing Detector (PID). Selected samples were placed in laboratory supplied containers, and labeled for transportation to ***On Site Technologies***' laboratory for analysis per EPA Method 8015M Diesel Range Organics. Chain of Custody protocol was followed throughout. A composite sample was taken of the "worst case" contaminated soils and submitted for waste characterization of the soils in the containment area. The contaminated soils are stored in a special cell at Tierra Environmental Company Inc, awaiting laboratory results.

The excavated areas were covered with clean imported backfill, re-seeded with BLM-1seed mix, and mulch spread over the area.

This site is considered stabilized. No further action is planned until laboratory analytical results are received and reviewed.

PO Box 2606
Farmington, NM

505-325-5667 **FAX: 505-327-1496**

On Site Technologies, Ltd.

NOV 16

Letter of Transmittal

ATTENTION: **DATE:** November 12, 1998

Mr. Bill Olson
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505

RE: Initial report of Diesel Spill at mile marker 5, State Route 539, involving oil Field Servicing truck belonging to Four-Four Inc.

REMARKS:

Dear Mr. Olson:

On the recommendation of Denny Foust, OCD District III, a copy of the following report is provided. If there are any questions or concerns, please feel free to contact me at (505) 325-5667.

We are sending you:

No. Originals	No. Copies	Description
	1	Four-Four Inc., Diesel, New and Used Oil Spill on Sate Route 539, San Juan County

SIGNATURE:

Larry Trujillo
Sr. Environmental Technician
cc:
Denny Foust
Shirley Ebert
Bill Liess

ON SITE
TECHNOLOGIES, LTD.

November 3, 1998

New Mexico Environmental Department
Ground Water Bureau
P.O. Box 26110
Santa Fe, New Mexico 87502

Attn.: Jim Malaney

RE: Four-Four, Inc., Diesel, New and Used Oil Spill on State Route 539, San Juan County, New Mexico

In accordance with New Mexico Water Quality Control Commission Regulation Section 1203 (A), the following information is provided:

a. Mike Hall, Four-Four Inc., P.O. Box 821, Farmington, New Mexico 87499, (505) 327-2711
b. ½ mile south of the Navajo Dam State Park (Refer to attached map).
c. October 27, 1998, 1:00PM, duration of the spill approximately one hour.
d. Diesel, new and used oils from a field service truck. Spill due to a single vehicle accident that resulted in an overturned service truck.
e. Diesel, refer to attached MSDS. Oils refer to attached MSDSs.
f. Approximately 600 gallons of Diesel and 200 gallons of new and used oils.
g. Refer to the following summary.

SUMMARY:

On October 27, 1998 at approximately 2:00 PM, ***On Site Technologies Limited Partnership*** was contacted by Four-Four Inc. to respond to a spill from an overturned service truck which occurred at 1:00 PM. The truck had spilled approximately 600 gallons of diesel and approximately 200 gallons of new and used oils. The accident occurred on State Route 539 approximately one half mile south of the Navajo Dam.

During a heavy rainstorm, the truck had overturned on a curve in the paved road at the top of a steep slope running from south to north. The diesel and oil traveled down the east side of the roadway to a pond used for the watering of wildlife. The product covered approximately two-thirds of the water surface. To remove the diesel and oil, vacuum trucks were called in. The diesel and oil was vacuumed from the surface. Due to continuing heavy rain, potentially contaminated water was also vacuumed from the pond to prevent overtopping of the impoundment berm. Approximately 13,000 gallons of water, diesel and oil was removed from the pond. The diesel and oil that remained on the surface of the pond was covered with SphagSorb® absorbent to encapsulate and prevent further contamination.

Due to heavy rain, the diesel and oil from the spill also traveled down the west side of the road to retention dams that were constructed to prevent migration off site of the product. Underflow pipes were placed to eliminate the water, while containing the porduct. SphagSorb® absorbent was spread on the porduct to encapsulate and

PO Box 2606
Farmington, NM
505-325-5667 FAX: 505-327-1496

prevent further contamination. The spent absorbent from the pond and retention dams was removed using pool skimmers and placed into a lined containment for proper disposal.

On October 28, 1998, water samples were taken from the pond, placed in laboratory supplied containers, and labeled for transportation to ***On Site Technologies'*** laboratory for analysis per EPA Method 8020 BTEX and Naphthalene, Oil and Grease per EPA Method 413.2. Chain of Custody protocol was followed throughout. The water that was removed from the pond is currently stored in a water storage tank at M&R Trucking awaiting laboratory results from the vacuumed water. To prevent any wildlife from drinking from the pond, a temporary fence was placed around the pond, until laboratory analysis of the pond water samples are completed.

The soils at the site were tightly packed clays that prevented the diesel and oil from being absorbed. Contaminated surface soils were excavated and placed into a lined containment for future disposal. Soil samples were taken from the runoff area, field screened using the Heated Headspace Method, with Organic Vapor Monitor with Photoionzing Detector (PID). Selected samples were placed in laboratory supplied containers, and labeled for transportation to ***On Site Technologies'*** laboratory for analysis per EPA Method 8015M Diesel Range Organics. Chain of Custody protocol was followed throughout. A composite sample was taken of the "worst case" contaminated soils and submitted for waste characterization. The contaminated soils are stored in a special cell at Tierra Environmental Company Inc, awaiting laboratory results.

On October 29, 1998, the excavated areas were covered with clean imported backfill, re-seeded with BLM-1seed mix, and mulch spread over the area.

This site is considered stabilized. No further action is planned until laboratory analytical results are received and reviewed.

If there are any questions or concerns, feel free to contact Cindy Gray or Larry Trujillo at (505) 325-5667.

Respectfully submitted,

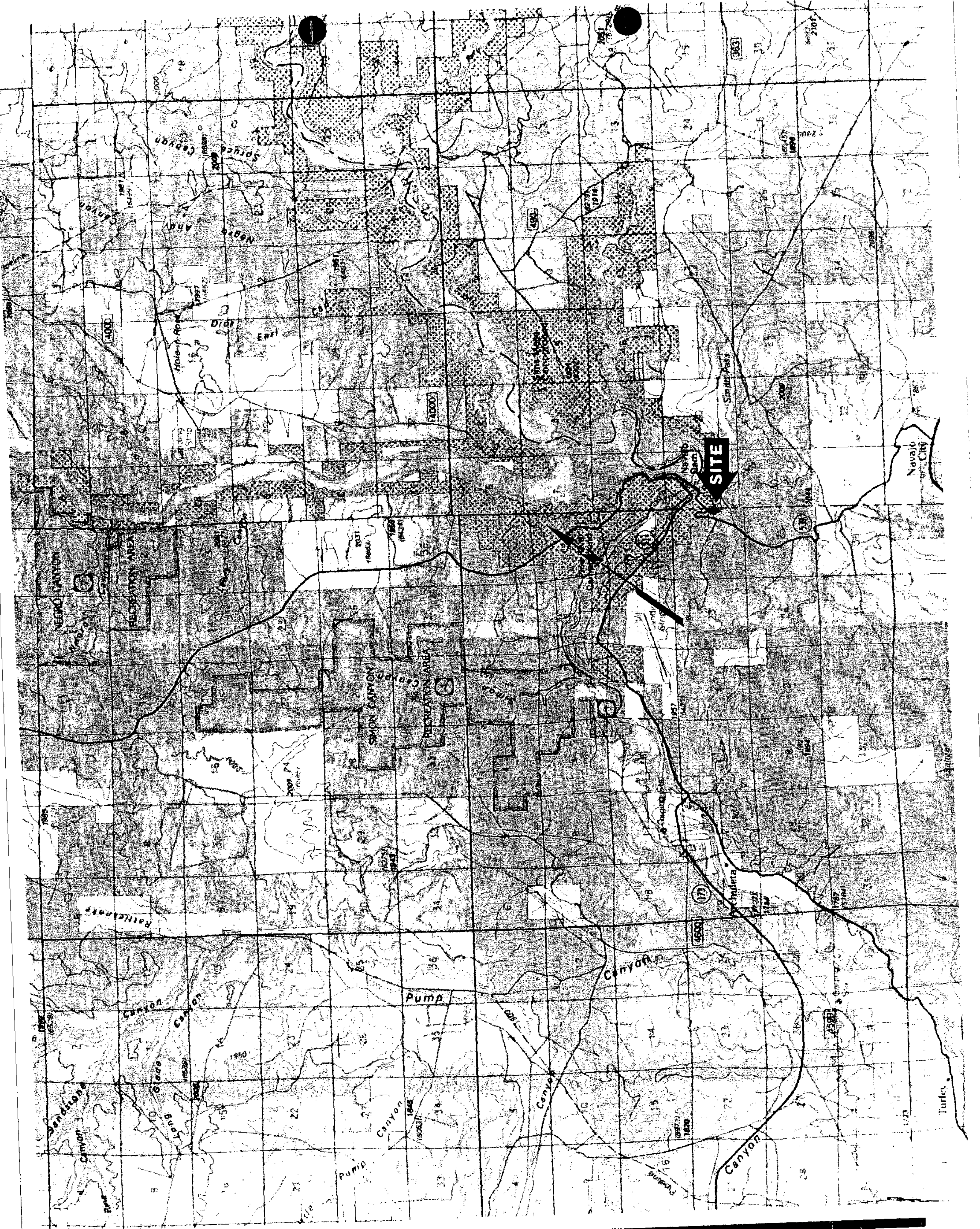
Lawrence Trujillo
Sr. Environmental Technician

Attachments:

Site Location Map
MSDSs for Fuels and Oils

CC:

Four-Four Inc., Mike Hall
Frank Chavez, NMOCD, Aztec Office
File



SITE
NEGRO CANYON
RECREATION AREA
SIMON CANYON
RECREATION AREA
Navajo Dam
Navajo City
Pump Canyon
Pump
Canyon
Long
Glade
Canyon
Sandstone
Rattlesnake
Turley
4000
173
539

May 31, 1990

USA and WORLDWIDE

Material Safety Data Sheet

DIESEL FUEL NO. 1

PHILLIPS 66 COMPANY
A Division of Phillips Petroleum Company
Bartlesville, Oklahoma 74004

PHONE NUMBERS
Emergency:
Business Hours (918) 661-3865
After Hours (918) 661-8118
General MSDS Information:
(918) 661-8327
For Additional MSDSs: (918) 661-5952

A. Product Identification

Synonyms: Aviation Turbine Fuel A; KTF; Kerosine Turbine Fuel; Kerosine; Diesel Fuel No. 1.
Chemical Name: Mixture
Chemical Family: Hydrocarbon
Chemical Formula: Mixture
CAS Reg. No.: 8008-20-6
Product No.: 35150

Product and/or Components Entered on EPA's TSCA Inventory: YES

This product has been commercially introduced into U.S. commerce, and is listed in the Toxic Substances Control Act (TSCA) Inventory of Chemicals in Commerce; hence, it is subject to all applicable provisions and restrictions under TSCA 40 CFR, section 721 and 723.250.

B. Hazardous Components

Ingredients	CAS Number	% By Wt.	OSHA PEL	ACGIH TLV
Paraffinic Hydrocarbons,	Various	approx 50	NE	NE
includes,n-Octane	111-65-9	approx 1.0	300 ppm	300 ppm
n-Nonane	111-84-2	approx 3.0	200 ppm	200 ppm
Naphthenes	Various	approx 33.0	NE	NE
Aromatic Hydrocarbons, includes	Various	approx 17.0	NE	NE
Benzene	71-43-2	approx 0.8	10 ppm*	10 ppm
Toluene	108-88-3	approx 1.0	100 ppm	100 ppm
p-Xylene	106-42-3	approx 1.0	100 ppm	100 ppm
m-Xylene	108-38-3	approx 3.0	100 ppm	100 ppm
o-Xylene	95-47-6	approx 1.4	100 ppm	100 ppm
1,3,5-Trimethylbenzene	108-67-8	approx 1.4	25 ppm	25 ppm**
1,2,4-Trimethylbenzene	95-63-6	approx 3.8	25 ppm	25 ppm**
1,2,3-Trimethylbenzene	526-73-8	approx 1.0	25 ppm	25 ppm**

* Operations covered by the Benzene Standard, 29 CFR 1910.1028, will have a 1 ppm 8 hour TWA and a 5 ppm STEL.
** For Trimethylbenzene

NA - Not Applicable NE - Not Established

C. Personal Protection Information

Ventilation:	Use adequate ventilation to control below recommended exposure levels.
Respiratory Protection:	For concentrations exceeding the recommended exposure level, use NIOSH/MSHA approved air purifying respirator. In case of spill or leak resulting in unknown concentration, use NIOSH/MSHA approved supplied air respirator. If conditions immediately dangerous to life or health (IDLH) exist, use NIOSH/MSHA approved self-contained breathing apparatus (SCBA).
Eye Protection:	Use safety glasses with side shields.
Skin Protection:	When entry into or exit from concentrations of unknown exposure, use NIOSH/MSHA approved self-contained breathing apparatus (SCBA). Use protective garments to prevent excessive skin contact.

NOTE: Personal protection information shown in Section C is based upon general information as to normal uses and conditions. Where special or unusual uses or conditions exist, it is suggested that the expert assistance of an industrial hygienist or other qualified professional be sought.

D. Handling and Storage Precautions

Do not get in eyes, on skin or on clothing. Do not breathe vapors. Wear protective equipment and/or garments described in Section C if exposure conditions warrant. Wash thoroughly after handling. Launder contaminated clothing before reuse.

Store in a cool, well-ventilated area away from ignition sources. Provide means of controlling leaks and spills. Bond and ground during liquid transfer. Keep containers closed.

E. Reactivity Data

Stability:	Stable
Conditions to Avoid:	Not Applicable
Incompatibility (Materials to Avoid):	Oxygen and strong oxidizing agents
Hazardous Polymerization:	Will Not Occur
Conditions to Avoid:	Not Applicable
Hazardous Decomposition Products:	Carbon oxides and various hydrocarbons formed when burned.

F. Health Hazard Data

Recommended Exposure Limits:

See Section B.

Acute Effects of Overexposure:

Eye: Slight eye irritancy.

Skin: Slight skin irritancy. Repeated skin contact may cause severe skin irritation.

Inhalation: May cause headache, nausea and sedation.

Ingestion: May be irritating to intestines. May be aspirated into lungs if swallowed, which may result in pulmonary edema and chemical pneumonitis.

Subchronic and Chronic Effects of Overexposure:

Jet fuel has produced kidney damage in laboratory animals. No comparable kidney damage is known in humans. May cause blood changes possibly leading to aplastic anemia. May cause liver damage.

Other Health Effects:

Combustion, a normal use of diesel fuel, results in an exhaust that has been associated with lung cancer in animals. There is limited evidence to suggest an association between occupational exposure to diesel exhaust and lung cancer in humans.

Jet Fuels generally contain Benzene which has been designated a carcinogen by NTP, IARC and OSHA. Benzene may produce blood changes which include reduced platelets, reduced red blood cells, reduced white blood cells, aplastic anemia, and acute nonlymphotic leukemia. Benzene has produced fetal death in laboratory animals and caused chromosome changes in humans and mutation changes in cells of other organisms. Health effects attributable to Benzene are not known to occur in humans exposed to jet fuels.

Health Hazard Categories:

	Animal	Human		Animal	Human
Known Carcinogen	___	___	Toxic	___	___
Suspect Carcinogen	___	___	Corrosive	___	___
Mutagen	___	___	Irritant	___	___
Teratogen	___	___	Target Organ Toxin	_X_	_X_
Allergic Sensitizer	___	___	Specify - Lungs-Aspiration Hazard; Blood & Liver Toxin; Kidney Toxin-Animals		
Highly Toxic	___	___			

First Aid and Emergency Procedures:

Eye: Flush eyes with running water for at least fifteen minutes.

Skin: Wash with soap and water. If irritation develops, seek medical attention.

Inhalation: Remove from exposure.

Ingestion: Do not induce vomiting. Seek immediate medical assistance.

Note to Physician: Gastric lavage using a cuffed endotracheal tube may be performed at your discretion.

G. Physical Data

Appearance:	Colorless Liquid
Odor:	Mild
Boiling Point:	300-572F (149-300C)
Vapor Pressure:	<1
Vapor Density (Air = 1):	Not Established
Solubility in Water:	Negligible
Specific Gravity (H2O = 1):	0.775-0.840
Percent Volatile by Volume:	100
Evaporation Rate (Ethyl Ether = 1):	<1
Viscosity:	8cSt at -4F (-20C)(Max.)

H. Fire and Explosion Data

Flash Point (Method Used):	100-150F (38-66C) (TCC, ASTM D56)
Flammable Limits (% by Volume in Air):	LEL - Not Established UEL - Not Established
Fire Extinguishing Media:	Dry chemical, foam or carbon dioxide (CO2)
Special Fire Fighting Procedures:	Evacuate area of all unnecessary personnel. Shut off source, if possible. Wear appropriate safety equipment for fire fighting conditions including NIOSH/MSHA approved self-contained apparatus (SCBA). Water fog or spray may be used to cool exposed containers and equipment. Do not spray water directly on fire product will float and could be reignited on surface of water.
Fire and Explosion Hazards:	Carbon oxides and various hydrocarbons formed when burned. Combustible vapors may accumulate and flash or explode if in contact with ignition source.

I. Spill, Leak and Disposal Procedures

Precautions Required if Material is Released or Spilled:
Evacuate area of all unnecessary personnel. Wear protective equipment and/or garments described in Section C if exposure conditions warrant. In case of spill or leak resulting in unknown concentration, use NIOSH/MSHA approved supplied air respirator. Shut off source, if possible and contain spill. Protect from ignition. Keep out of water sources and sewers. Absorb in a dry, inert material. Transfer to disposal drums using non-sparking equipment.

Waste Disposal (Insure Conformity with all Applicable Disposal Regulations):
Incinerate or otherwise manage at a RCRA permitted waste management facility.

J. DOT Transportation

Shipping Name: Fuel, Aviation, Turbine Engine
Hazard Class: Combustible Liquid
ID Number: UN 1863
Marking: 1863 on bulk containers (greater than 110 gallons)
Label: None
Placard: Combustible or Flammable
Hazardous Substance/RQ: Not Applicable
Shipping Description: Fuel, Aviation, Turbine Engine, Combustible Liquid, UN 1863
Packaging References: 49 CFR 173.118a; must also comply with 173.24

Note: The above information is applicable only when the product is shipped in containers larger than 110 gallons. Smaller quantities are not regulated.

K. RCRA Classification - Unadulterated Product as a Waste

Ignitable (D001)

L. Protection Required for Work on Contaminated Equipment

Contact immediate supervisor for specific instructions before work is initiated. Wear protective equipment and/or garments described in Section C if exposure conditions warrant.

M. Hazard Classification

_X_ This product meets the following hazard definition(s) as defined by the Occupational Safety and Health Hazard Communication Standard (29 CFR Section 1910.1200):

_X_ Combustible Liquid	___ Flammable Aerosol	___ Oxidizer
___ Compressed Gas	___ Explosive	___ Pyrophoric
___ Flammable Gas	_X_ Health Hazard (Section F)	___ Unstable
___ Flammable Liquid	___ Organic Peroxide	___ Water Reactive
___ Flammable Solid		

___ Based on information presently available, this product does not meet any of the hazard definitions of 29 CFR Section 1910.1200.

N. Additional Comments

This product contains the following chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372, (see Section B):

Benzene
Toluene
p-Xylene
o-Xylene
m-Xylene
1,2,4-Trimethylbenzene

Toxicity Study Summaries are available for Toluene and ortho Xylene upon request.

December 31,

USA and WORLDWIDE

Material Safety Data Sh

DUAL PURPOSE FUEL OIL

PHILLIPS 66 COMPANY
A Division of Phillips Petroleum Company
Bartlesville, Oklahoma 74004

PHONE NUMBERS
Emergency:
Business Hours (918) 66
After Hours (918) 66
General MSDS Information:
(918) 66
For Additional MSDSs: (918) 66

A. Product Identification

Synonyms: Fuel Oil No. 2
Chemical Name: Mixture
Chemical Family: Hydrocarbon
Chemical Formula: Mixture
CAS Reg. No.: 68476-30-2
Product No.: 34360

Product and/or Components Entered on EPA's TSCA Inventory: YES

This product is in U.S. commerce, and is listed in the Toxic Substances Control Act (TSCA) Inventory of Chemicals; hence, it is subject to all applicable provisions and restrictions of 40 CFR, section 721 and 723.250.

B. Hazardous Components

Ingredients	CAS Number	% By Wt.	OSHA PEL	ACGIH TLV
Fuel Oil No. 2	68476-30-2	100	5 mg/m3*	5 mg/m3*

* As oil mist.

NA - Not Applicable NE - Not Established

C. Personal Protection Information

Ventilation: Use adequate ventilation to control exposure below recommended levels.

Respiratory Protection: For concentrations exceeding the recommended exposure level, use NIOSH/MSHA approved air purifying respirator. In case of spill or leak resulting in unknown concentration, use NIOSH/MSHA approved supplied air respirator.

Eye Protection: Use chemical goggles for splash protection.

Skin Protection: No special garments required. Avoid unnecessary skin contamination with material. Use impervious gloves.

NOTE: Personal protection information shown in Section C is based upon general information as to normal uses and conditions. Where special or unusual uses or conditions exist, it is suggested that the expert assistance of an industrial hygienist or other qualified professional be sought.

D. Handling and Storage Precautions

Avoid inhalation and skin and eye contact. Wear protective equipment and/or garments described in Section C if exposure conditions warrant. Wash hands after handling. Launder contaminated clothing before reuse.

Store in a cool, well-ventilated area away from ignition sources. Provide means of controlling leaks and spills. Bond and ground during liquid transfer. Keep containers closed.

E. Reactivity Data

Stability: Stable
Conditions to Avoid: Not Applicable
Incompatibility (Materials to Avoid): Oxygen and strong oxidizing materials

Hazardous Polymerization: Will Not Occur
Conditions to Avoid: Not Applicable
Hazardous Decomposition Products: Carbon oxides and various hydrocarbons formed when burned.

F. Health Hazard Data

Recommended Exposure Limits:

See Section B.

Acute Effects of Overexposure:

Eye: May cause slight irritation.

Skin: May cause slight irritation.

Inhalation: May cause headache, nausea, dizziness, unconsciousness.

Ingestion: May cause slight irritation to stomach or intestines. May cause nausea, headache and unconsciousness. May be aspirated into lungs if swallowed resulting in pulmonary edema and chemical pneumonitis.

Subchronic and Chronic Effects of Overexposure:

No known applicable information.

Other Health Effects:

Combustion, a normal use of diesel fuel, results in an exhaust that has been associated with lung cancer in animals. There is limited evidence to suggest an association between occupational exposure to diesel exhaust and lung cancer in humans.

Long term exposure to high oil mist concentrations may cause non-debilitating lung changes.

Health Hazard Categories:

	Animal	Human		Animal	Human
Known Carcinogen	___	___	Toxic	___	___
Suspect Carcinogen	___	___	Corrosive	___	___
Mutagen	___	___	Irritant	___	___
Teratogen	___	___	Target Organ Toxin	_X_	_X_
Allergic Sensitizer	___	___	Specify - Lung-Aspiration Hazard		
Highly Toxic	___	___			

First Aid and Emergency Procedures:

Eye: Flush eyes with running water for at least 15 minutes.

Skin: Wash with soap and water.

Inhalation: Remove from exposure.

Ingestion: Do not induce vomiting. Seek immediate medical assistance.

Note to Physician: Gastric lavage using a cuffed endotracheal tube may be performed at your discretion.

G. Physical Data

Appearance:	Amber Liquid
Odor:	Mild
Boiling Point:	325-625F (163-329C)
Vapor Pressure:	<1
Vapor Density (Air = 1):	6-7
Solubility in Water:	Negligible
Specific Gravity (H2O = 1):	0.85 at 60/60F
Percent Volatile by Volume:	100
Evaporation Rate (Butyl Acetate = 1):	<1
Viscosity:	Not Established

H. Fire and Explosion Data

Flash Point (Method Used):	>100F (>38C) (TCC, ASTM D 56)
Flammable Limits (% by Volume in Air):	LEL - Not Established UEL - Not Established
Fire Extinguishing Media:	Dry chemical, foam or carbon dioxide (CO2)
Special Fire Fighting Procedures:	Evacuate area of all unnecessary personnel. Shut off source, if possible. Use NIOSH/MSHA approved self-contained breathing apparatus and other protective equipment and/or garments described in Section C if conditions warrant. If conditions immediately dangerous to life or health (IDLH) exist, use NIOSH/MSHA approved self-contained breathing apparatus (SCBA) equipment. Water fog or spray may be used to cool exposed containers and equipment. Do not spray water directly on fire - product will float and could be reignited on surface of water.
Fire and Explosion Hazards:	Carbon oxides and various hydrocarbons formed when burned.

I. Spill, Leak and Disposal Procedures

Precautions Required if Material is Released or Spilled:

Evacuate area of all unnecessary personnel. Wear protective equipment and/or garments described in Section C if exposure conditions warrant. In case of spill or leak resulting in unknown concentration, use NIOSH/MSHA approved supplied air respirator. In case of spill or leak which results in conditions immediately dangerous to life or health (IDLH) use NIOSH/MSHA approved self-contained breathing apparatus (SCBA) equipment. When entry into or exit from concentrations of unknown exposure, use NIOSH/MSHA approved self-contained breathing apparatus (SCBA). Shut off source, if possible and contain spill. Protect from ignition. Keep out of water sources and sewers. Absorb in dry, inert material. Transfer to disposal drums using non-sparking equipment.

Waste Disposal (Insure Conformity with all Applicable Disposal Regulations):

Incinerate or place in RCRA permitted waste management facility.

J. DOT Transportation

Shipping Name: Fuel oil, No. 2
Hazard Class: Combustible liquid
ID Number: NA 1993
Marking: 1993 or Fuel Oil (See 49 CFR 172.336(c)(3))
Label: None
Placard: Flammable or Combustible/1993, or Fuel Oil (See 49 CFR 172.544(c))
Hazardous Substance/RQ: Not Applicable
Shipping Description: Fuel Oil, No. 2, Combustible Liquid, NA 1993
Packaging References: 49 CFR 173.118a

K. RCRA Classification - Unadulterated Product as a Waste

Ignitable

L. Protection Required for Work on Contaminated Equipment

Wear protective equipment and/or garments described in Section C if exposure conditions warrant. Use NIOSH/MSHA approved respiratory protection, such as air-supplied mask, in confined spaces or other poorly ventilated areas. See Protective Clothing Requirements. Contact immediate supervisor for specific instructions before work is initiated.

M. Hazard Classification

_X_ This product meets the following hazard definition(s) as defined by the Occupational Safety and Health Hazard Communication Standard (29 CFR Section 1910.1200):

_X_ Combustible Liquid	___ Flammable Aerosol	___ Oxidizer
___ Compressed Gas	___ Explosive	___ Pyrophoric
___ Flammable Gas	_X_ Health Hazard (Section F)	___ Unstable
___ Flammable Liquid	___ Organic Peroxide	___ Water Reactive
___ Flammable Solid		

___ Based on information presently available, this product does not meet any of the hazard definitions of 29 CFR Section 1910.1200.

N. Additional Comments

As of the preparation date, this product did not contain a chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

March 31, 1990

USA and WORLDWIDE

Material Safety Data Sheet

GASOLINES (ALL GRADES)

This Material Safety Data Sheet references the following grades:

Regular Leaded, Regular Unleaded, Unleaded Plus, Unleaded Plus/Reformulated, and Premium Unleaded

PHILLIPS 66 COMPANY
A Division of Phillips Petroleum Company
Bartlesville, Oklahoma 74004

PHONE NUMBERS
Emergency:
Business Hours (918) 661-3865
After Hours (918) 661-8118
General MSDS Information: (918) 661-8327
For Additional MSDSs: (918) 661-5952

A. Product Identification

Synonyms: Petrol, Motor Fuel
Chemical Name: Mixture
Chemical Family: Aliphatic and Aromatic Hydrocarbon
Chemical Formula: Mixture
CAS Reg. No.: Mixture
Product No.: 10000, 10001; 12050, 12051; 12052, 12053; 12054, 12055; 13050, 13051; respectively

Product and/or Components Entered on EPA's TSCA Inventory: YES

This product is in U.S. commerce, and is listed in the Toxic Substances Control Act (TSCA) Inventory of Chemicals; hence, it is subject to all applicable provisions and restrictions of 40 CFR, section 721 and 723.250.

B. Hazardous Components

Ingredients	CAS Number	% By Wt.	OSHA PEL	ACGIH TLV
Gasoline, including:	8006-61-9	100	300 ppm	300 ppm
Benzene	71-43-2	< 5	10 ppm(1)	10 ppm
Toluene	108-88-3	<10	100 ppm	100 ppm
Ethyl Benzene	100-41-4	< 2	100 ppm	100 ppm
p-Xylene	106-42-3	< 3	100 ppm	100 ppm
m-Xylene	108-38-3	< 6	100 ppm	100 ppm
o-Xylene	95-47-6	< 3	100 ppm	100 ppm
Methyl-tert-Butyl Ether	1634-04-4	<15	NE	NE
1,2,4-Trimethyl Benzene	95-63-6	< 3	25 ppm(2)	25 ppm(2)
Tetraethyl Lead (TEL)	78-00-2	<0.25 g/gal**	0.075 mg/m3*	0.1 mg/m3*

* As Lead, skin notation
** Quarterly average equivalent to <0.1 g Pb/gal for leaded gasolines Unleaded gasolines, <0.05 g Pb/gal per sample
(1) Areas covered by the Benzene Standard, 29 CFR 1910.1028, will have

NA - Not Applicable NE - Not Established

a 1 ppm 8 hour TWA and 5 ppm STEL.
(2) For Trimethylbenzenes

C. Personal Protection Information

Ventilation:	Use adequate ventilation to control exposure below recommended levels.
Respiratory Protection:	For concentrations exceeding the recommended exposure level, use NIOSH/MSHA approved air purifying respirator. When entry into or exit from concentrations of unknown exposure, use NIOSH/MSHA approved self-contained breathing apparatus (SCBA).
Eye Protection:	Use safety glasses with side shields.
Skin Protection:	Use gloves of Viton, Nitrile, or Polyvinyl Alcohol (PVA) construction and full body long-sleeved garments.

NOTE: Personal protection information shown in Section C is based upon general information as to normal uses and conditions. Where special or unusual uses or conditions exist, it is suggested that the expert assistance of an industrial hygienist or other qualified professional be sought.

D. Handling and Storage Precautions

Avoid contact with eyes, skin or clothing. Avoid breathing vapors. Wear protective equipment and/or garments described in Section C if exposure conditions warrant. Wash thoroughly after handling. Immediately remove any contaminated clothing. Launder contaminated clothing before reuse. Do not siphon by mouth.

Store in cool, well-ventilated area away from ignition sources. Provide means of controlling leaks and spills. Bond and ground during liquid transfer. Keep containers closed. Protect containers from physical damage.

E. Reactivity Data

Stability:	Stable
Conditions to Avoid:	Not Applicable
Incompatibility (Materials to Avoid):	Oxygen and strong oxidizing agents
Hazardous Polymerization:	Will Not Occur
Conditions to Avoid:	Not Applicable
Hazardous Decomposition Products:	Carbon oxides, lead fumes (for grades containing Tetraethyl Lead) and various hydrocarbons when burned.

F. Health Hazard Data

Recommended Exposure Limits:

See Section B.

Acute Effects of Overexposure:

Eye: May cause slight irritation to the eyes.

Skin: May cause slight irritation to the skin.

Inhalation: May cause headache, nausea, weakness, sedation, and unconsciousness.

Ingestion: May cause irritation to intestines. May be aspirated into the lungs if swallowed, which may result in pulmonary edema and chemical pneumonitis.

Subchronic and Chronic Effects of Overexposure:

Unleaded gasoline has produced cancer in laboratory animals. No comparable health hazard for cancer is known to occur in humans.

Other Health Effects:

Unleaded gasoline has produced kidney damage in male rats only. No comparable health hazard for kidney disease is known to occur in humans.

Gasolines containing lead anti-knock compounds should be handled in such a way to minimize contact with the body. Lead can accumulate in the body with overexposure and cause illness due to effects on the blood, nerves, kidneys and the reproductive system.

Gasolines generally contain Benzene which has been designated a carcinogen by NTP, IARC, and OSHA. Benzene may produce blood changes which include reduced platelets, reduced red blood cells, reduced white blood cells, aplastic anemia, and acute nonlymphocytic leukemia. Benzene has produced fetal death in laboratory animals and caused chromosome changes in humans and mutation changes in cells of other organisms. Health effects attributable to Benzene are not known to occur in humans exposed to gasolines.

Health Hazard Categories:

	Animal	Human		Animal	Human
Known Carcinogen	___	___	Toxic	___	___
Suspect Carcinogen	_X_	___	Corrosive	___	___
Mutagen	___	___	Irritant	___	___
Teratogen	___	___	Target Organ Toxin	_X_	_X_
Allergic Sensitizer	___	___	Specify - Lung-Aspiration Hazard		
Highly Toxic	___	___			

First Aid and Emergency Procedures:

Eye:	Flush eyes with running water for at least fifteen minutes. If irritation develops, seek medical attention.
Skin:	Wash with soap and water. If irritation develops, seek medical attention.
Inhalation:	Remove from exposure. If breathing ceases, administer artificial respiration followed by oxygen. Seek medical attention.
Ingestion:	Do not induce vomiting. Seek immediate medical assistance.
Note to Physician:	Gastric lavage using a cuffed endotracheal tube may be performed at your discretion.

G. Physical Data

Appearance:	Red-orange Liquid
Odor:	Pungent
Boiling Point:	80-430F (27-221C)
Vapor Pressure:	350-800 mmHg at 20C (68F)
Vapor Density (Air = 1):	3-4
Solubility in Water:	Negligible
Specific Gravity (H2O = 1):	0.8 at 60/60F (15.6/15.6C)
Percent Volatile by Volume:	100
Evaporation Rate (Butyl Acetate = 1):	> 1
Viscosity:	Not Established

H. Fire and Explosion Data

Flash Point (Method Used):	<-35F (-37C) (Estimated)
Flammable Limits (% by Volume in Air):	LEL - 1.5 UEL - 7.6
Fire Extinguishing Media:	Dry chemical, foam or carbon dioxide (CO2)
Special Fire Fighting Procedures:	Evacuate area of all unnecessary personnel. Wear appropriate safety equipment for fire conditions including NIOSH/MSHA self-contained breathing apparatus (SCBA). Shut off source, if possible. Water fog or spray may be used to cool exposed containers and equipment. Do not spray water directly on fire - product will float and could be reignited on surface of water.
Fire and Explosion Hazards:	Carbon oxides and various hydrocarbons formed when burned. Gasolines containing Tetraethyl Lead will form lead fumes when burning. Highly flammable vapors which are heavier than air may accumulate in low areas and/or spread along ground away from handling site. Flashback along vapor trail may occur.

I. Spill, Leak and Disposal Procedures

Precautions Required if Material is Released or Spilled:
Evacuate area of all unnecessary personnel. Wear protective equipment and/or garments described in Section C if exposure conditions warrant. Shut off source, if possible and contain spill. Protect from ignition. Keep out of water sources and sewers. Absorb in dry, inert material. Transfer to disposal drums using non-sparking equipment.

Waste Disposal (Insure Conformity with all Applicable Disposal Regulations):
Incinerate or otherwise manage in a RCRA permitted waste management facility.

J. DOT Transportation

Shipping Name:	Gasoline
Hazard Class:	Flammable Liquid
ID Number:	UN 1203
Marking:	Gasoline/UN 1203 on containers smaller than 110 gallons; 1203 on bulk containers.
Label:	Flammable Liquid
Placard:	Flammable
Hazardous Substance/RQ:	Tetraethyl Lead (10 lbs.) - for grades containing TEL.
Shipping Description:	Gasoline, Flammable Liquid, UN 1203
Packaging References:	49 CFR 173.118 and 173.119(a)

K. RCRA Classification - Unadulterated Product as a Waste

Ignitable (D001) - For all gasolines.
EP Toxic (D008) - For gasolines containing TEL.

L. Protection Required for Work on Contaminated Equipment

Contact immediate supervisor for specific instructions before work is initiated. Wear protective equipment and/or garments described in Section C if exposure conditions warrant.

M. Hazard Classification

_X_ This product meets the following hazard definition(s) as defined by the Occupational Safety and Health Hazard Communication Standard (29 CFR Section 1910.1200):

___ Combustible Liquid	___ Flammable Aerosol	___ Oxidizer
___ Compressed Gas	___ Explosive	___ Pyrophoric
___ Flammable Gas	_X_ Health Hazard (Section F)	___ Unstable
_X_ Flammable Liquid	___ Organic Peroxide	___ Water Reactive
___ Flammable Solid		

___ Based on information presently available, this product does not meet any of the hazard definitions of 29 CFR Section 1910.1200.

N. *Additional Comments*

This product contains the following chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372. (See Hazardous Components Section B).

Benzene
Toluene
Ethyl Benzene
p-Xylene
o-Xylene
m-Xylene
Methyl-tert-Butyl Ether
1,2,4-Trimethyl Benzene

A Toxicity Study Summary is available upon request for Regular Gasoline.

Material Safety Data Sheet

Prepared According to the OSHA Hazard Communication Standard (29 CFR 1910.1200).
(Formerly Called MATERIAL INFORMATION BULLETIN)

CHEVRON RPM DELO Motor Oil SAE 15W-40 **CPS 225020**

TYPICAL COMPOSITION

Highly refined base oils (CAS 64742-54-7 and 64742-65-0)	>75%
Additives including inhibitor, dispersants, detergents, viscosity index improver, calcium phenate and zinc dialkyldithiophosphate (CAS 68649-42-3)	<25%

EXPOSURE STANDARD

No Federal OSHA exposure standard or ACGIH TLV has been established for this material. Based on information reviewed to date, we recommend an exposure standard of 5 mg/m^3. This is the Federal OSHA exposure standard and the ACGIH (1984-85) TLV for mineral oil mists.

PHYSIOLOGICAL & HEALTH EFFECTS	EMERGENCY & FIRST AID PROCEDURES
Eyes	
Expected to cause no more than minor eye irritation.	Flush eyes immediately with fresh water for at least 15 minutes while holding the eyelids open. If irritation persists, see a doctor.
Skin	
Expected to cause no more than minor skin irritation following prolonged or frequently repeated contact. See Additional Health Data.	Wash skin thoroughly with soap and water. Launder contaminated clothing.
Inhalation	
Not expected to be acutely toxic by inhalation. Breathing mineral oil mist at concentrations in air that exceed the recommended exposure standard can cause respiratory irritation or discomfort. See Additional Health Data.	If respiratory discomfort or irritation occurs, move the person to fresh air. See a doctor if discomfort or irritation continues.
Ingestion	
Not expected to be acutely toxic by ingestion.	If swallowed, give water or milk to drink and telephone for medical advice. Consult medical personnel before inducing vomiting. If medical advice cannot be obtained, then take the person and product container to the nearest medical emergency treatment center or hospital.

ADDITIONAL HEALTH DATA

See Page 3.

SPECIAL PROTECTIVE INFORMATION

Eye Protection: No special eye protection is necessary.
Skin Protection: No special skin protection is necessary.
Respiratory Protection: No special respiratory protection is normally required. However, if operating conditions create airborne concentrations which exceed the recommended exposure standard, the use of an approved respirator is recommended.
Ventilation: Use adequate ventilation to keep the airborne concentrations of this material below the recommended exposure standard.

FIRE PROTECTION

Flash Point: (COC)410°F(210°C) Min.
Autoignition Temp.: NDA
Flammability Limits: n/a
Extinguishing Media: CO_2, Dry Chemical, Foam, Water Fog.
Special Fire Fighting Procedures: For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus. See Hazardous Decomposition Products. Read the entire MSDS.

SPECIAL PRECAUTIONS

DO NOT weld, heat or drill container. Residue may ignite with explosive violence if heated sufficiently.

CAUTION! Do not use pressure to empty drum or explosion may result.

ENVIRONMENTAL PROTECTION

Environmental Impact: This material is not expected to present any environmental problems other than those associated with oil spills.
Precautions if Material is Released or Spilled: Stop the source of the leak or release. Clean up releases as soon as possible, observing precautions in Special Protective Information. Contain liquid to prevent further contamination of soil, surface water or groundwater. Clean up small spills using appropriate techniques such as sorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Follow prescribed procedures for reporting and responding to larger releases.
Waste Disposal Methods: Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material.

REACTIVITY DATA

Stability (Thermal, Light, etc.): Stable
Incompatibility (Materials to Avoid): May react with strong oxidizing materials.
Hazardous Decomposition Products: Normal combustion forms carbon dioxide and water vapor and may produce oxides of sulfur, nitrogen and phosphorus; incomplete combustion can produce carbon monoxide.
Hazardous Polymerization: Will not occur.

PHYSICAL PROPERTIES

Solubility: Insoluble in water. Miscible with hydrocarbon solvents.
Appearance (Color, Odor, etc.): Dark amber liquid
Boiling Point: n/a
Melting Point: n/a
Specific Gravity: 0.89 15.6/15.6°C
Vapor Pressure: n/a
Vapor Density (Air=1): n/a
Percent Volatile (Volume %): n/a
Evaporation: n/a
Pour Point: -22°C (Max.)
Viscosity: 13.8 cSt @ 100°C

n/a = Not Applicable
NDA = No Data Available

Material Safety Data Sheet

CHEVRON RPM DELO Motor Oil SAE 15W-40 **CPS 225020**

ADDITIONAL HEALTH DATA

Signs and symptoms of respiratory tract irritation may include, but may not be limited to, one or more of the following, depending on concentration and length of exposure: nasal discharge, nosebleed, sore throat, coughing, bronchitis, pulmonary edema and difficulty in breathing.

This product contains zinc dialkyldithiophosphate (ZDDP). ZDDPs have been tested by repeated application to the skin of young rabbits for three weeks. These rabbits developed severe skin damage, weight loss, and adverse testicular effects. Follow-up studies indicated similar testicular effects can be produced by placing rabbits on a restricted diet and causing them to lose weight or by treating rabbits with simple caustic chemicals and causing them to develop both severe skin irritation and weight loss. Rats similarly treated with ZDDP did not develop testicular effects even when skin damage and weight loss occurred. These results indicate that the testicular effects seen in rabbits were not caused by the toxicity of ZDDPs but were due to the species reaction to stress from severe skin irritation and weight loss. There is no evidence that human exposure to ZDDPs in the workplace will cause testicular effects since occupational exposure does not cause stress from severe skin irritation and weight loss similar to that observed in rabbits. In summary, we now believe there is no risk of male reproductive impairment from working with ZDDP.

Several ZDDPs have also been found to have weak mutagenic activity in cultured mammalian cells. The low level of activity occurred only at ZDDP concentrations which were highly toxic to the test cells. Since mutagenic activity was observed with zinc chloride but not with calcium dialkyldithiophosphate, the weak mutagenic activity of ZDDP may be due to the zinc in the chemical. Zinc is abundant in the environment, is an essential element in our diets, and it is generally accepted that zinc is not a health hazard. Therefore, we do not believe the test results discussed above indicate a genetic hazard to employees working with ZDDPs. Appropriate personal hygiene procedures as outlined in the MSDS, should, of course, be followed since ZDDPs in concentrated form are irritating to the skin.

This product also contains calcium phenate. When a similar calcium phenate was applied to the skin of rabbits five days/week for four weeks, the animals developed adverse testicular effects. Studies with other chemicals have since shown that rabbits may develop similar testicular effects due to stress rather than to chemical toxicity. We further investigated the effects of calcium phenates in rats, a species now recognized as more appropriate than rabbits for investigating toxicity by repeated skin exposures. Calcium phenate applied five days/week for four weeks to the skin of rats did not produce adverse testicular effects. Based on these data, we believe that there is no risk of male reproductive impairment from exposure to calcium phenate in the workplace.

This product contains base oils which the International Agency for Research on Cancer (IARC) classifies as having no evidence of carcinogenic potential.

During use in engines, contamination of oil with low levels of cancer-causing combustion products occurs. Used motor oils have been shown to cause skin cancer in mice following repeated application and continuous exposure. Brief or intermittent skin contact with used motor oil is not expected to have serious effects in humans if the oil is thoroughly

removed by washing with soap and water. See Chevron Material Safety Data Sheet No. 1793 for additional information on used motor oil.

Material Safety Data Sheet

Prepared According to the OSHA Hazard Communication Standard (29 CFR 1910.1200). (Formerly Called MATERIAL INFORMATION BULLETIN)

CHEVRON Universal Gear Lubricant SAE 80W-90 **CPS 250102**

TYPICAL COMPOSITION

Highly refined base oils (CAS 64742-57-0, 64742-01-4, 64742-54-7, 64742-62-7, 64742-41-2, 64742-65-0, 64742-36-5)	>90%
Additives including inhibitors and extreme pressure agent	<10%

EXPOSURE STANDARD

No Federal OSHA exposure standard or ACGIH TLV has been established for this material. Based on information reviewed to date, we recommend an exposure standard of 5 mg/m^3. This is the Federal OSHA exposure standard and the ACGIH (1984-85) TLV for mineral oil mists.

PHYSIOLOGICAL & HEALTH EFFECTS	EMERGENCY & FIRST AID PROCEDURES
Eyes	
Expected to cause no more than minor eye irritation.	Flush eyes immediately with fresh water for at least 15 minutes while holding the eyelids open. If irritation persists, see a doctor.
Skin	
Expected to cause no more than minor skin irritation following prolonged or frequently repeated contact.	Wash thoroughly with soap and water following skin contact. Launder contaminated clothing.
Inhalation	
Wash skin thoroughly with soap and water. Launder contaminated clothing.	If respiratory discomfort or irritation occurs, move the person to fresh air. See a doctor if discomfort or irritation continues.
Ingestion	
Not expected to have acute systemic toxicity by ingestion.	If swallowed, give water or milk to drink and telephone for medical advice. Consult medical personnel before inducing vomiting. If medical advice cannot be obtained, then take the person and product container to the nearest medical emergency treatment center or hospital.

ADDITIONAL HEALTH DATA

Signs and symptoms of respiratory tract irritation may include, but may not be limited to, one or more of the following, depending on concentration and length of exposure: nasal discharge, nosebleed, sore throat, coughing, bronchitis, pulmonary edema and difficulty in breathing.

This product contains base oils which the International Agency for Research on Cancer (IARC) classifies as having no evidence of carcinogenic potential.

SPECIAL PROTECTIVE INFORMATION

Eye Protection: No special eye protection is necessary.
Skin Protection: No special skin protection is necessary.
Respiratory Protection: No special respiratory protection is normally required. However, if operating conditions create airborne concentrations which exceed the recommended exposure standard, the use of an approved respirator is recommended.
Ventilation: Use adequate ventilation to keep the airborne concentrations of this material below the recommended exposure standard.

FIRE PROTECTION

Flash Point: (COC)392°F(200°C) Min.
Autoignition Temp.: NDA
Flammability Limits: n/a
Extinguishing Media: CO_2, Dry Chemical, Foam, Water Fog
Special Fire Fighting Procedures: For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus. See Hazardous Decomposition Products. Read the entire MSDS.

SPECIAL PRECAUTIONS

DO NOT weld, heat or drill container. Residue may ignite with explosive violence if heated sufficiently.

CAUTION! Do not use pressure to empty drum or explosion may result.

ENVIRONMENTAL PROTECTION

Environmental Impact: This material is not expected to present any environmental problems other than those associated with oil spills.
Precautions if Material is Released or Spilled: Stop the source of the leak or release. Clean up releases as soon as possible. Contain liquid to prevent further contamination of soil, surface water or groundwater. Clean up small spills using appropriate techniques such as sorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Follow prescribed procedures for reporting and responding to larger releases.
Waste Disposal Methods: Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material.

REACTIVITY DATA

Stability (Thermal, Light, etc.): Stable.
Incompatibility (Materials to Avoid): May react with strong oxidizing materials.
Hazardous Decomposition Products: Normal combustion forms carbon dioxide and water vapor and may produce oxides of sulfur and phosphorus; incomplete combustion can produce carbon monoxide.
Hazardous Polymerization: Will not occur.

PHYSICAL PROPERTIES

Solubility: Insoluble in water. Miscible with hydrocarbon solvents.
Appearance (Color, Odor, etc.): Dark green liquid
Boiling Point: n/a
Melting Point: n/a
Specific Gravity: 0.90 @ 15.6/15.6°C
Vapor Pressure: n/a
Vapor Density (Air=1): n/a
Percent Volatile (Volume %): n/a
Evaporation: n/a
Pour Point: -26°C (Max.)
Viscosity: 15.1 cSt @ 100°C (Min.)

n/a = Not Applicable
NDA = No Data Available

Dear Customer: This Bulletin contains important environmental, health and toxicology information for your employees who receive this product. Please make sure this information is given to them. If you resell this product, this Bulletin should be given to the Buyer. This Form may be reproduced without permission.

Chevron U.S.A. Inc.

Material Safety Data Sheet

Prepared According to the OSHA Hazard Communication Standard (29 CFR 1910.1200).
(Formerly Called MATERIAL INFORMATION BULLETIN)

CHEVRON Universal Gear Lubricant SAE 80W-90 **CPS 250102**

TYPICAL COMPOSITION

Highly refined base oils (CAS 64742-57-0, 64742-01-4, 64742-54-7, 64742-62-7, 64742-41-2, 64742-65-0, 64742-36-5)	>90%
Additives including inhibitors and extreme pressure agent	<10%

EXPOSURE STANDARD

No Federal OSHA exposure standard or ACGIH TLV has been established for this material. Based on information reviewed to date, we recommend an exposure standard of 5 mg/m^3. This is the Federal OSHA exposure standard and the ACGIH (1984-85) TLV for mineral oil mists.

PHYSIOLOGICAL & HEALTH EFFECTS	EMERGENCY & FIRST AID PROCEDURES
Eyes	
Expected to cause no more than minor eye irritation.	Flush eyes immediately with fresh water for at least 15 minutes while holding the eyelids open. If irritation persists, see a doctor.
Skin	
Expected to cause no more than minor skin irritation following prolonged or frequently repeated contact.	Wash thoroughly with soap and water following skin contact. Launder contaminated clothing.
Inhalation	
Wash skin thoroughly with soap and water. Launder contaminated clothing.	If respiratory discomfort or irritation occurs, move the person to fresh air. See a doctor if discomfort or irritation continues.
Ingestion	
Not expected to have acute systemic toxicity by ingestion.	If swallowed, give water or milk to drink and telephone for medical advice. Consult medical personnel before inducing vomiting. If medical advice cannot be obtained, then take the person and product container to the nearest medical emergency treatment center or hospital.

ADDITIONAL HEALTH DATA

Signs and symptoms of respiratory tract irritation may include, but may not be limited to, one or more of the following, depending on concentration and length of exposure: nasal discharge, nosebleed, sore throat, coughing, bronchitis, pulmonary edema and difficulty in breathing.

This product contains base oils which the International Agency for Research on Cancer (IARC) classifies as having no evidence of carcinogenic potential.

SPECIAL PROTECTIVE INFORMATION

Eye Protection: No special eye protection is necessary.
Skin Protection: No special skin protection is necessary.
Respiratory Protection: No special respiratory protection is normally required. However, if operating conditions create airborne concentrations which exceed the recommended exposure standard, the use of an approved respirator is recommended.
Ventilation: Use adequate ventilation to keep the airborne concentrations of this material below the recommended exposure standard.

FIRE PROTECTION

Flash Point: (COC)392°F(200°C) Min.
Autoignition Temp.: NDA
Flammability Limits: n/a
Extinguishing Media: CO_2, Dry Chemical, Foam, Water Fog
Special Fire Fighting Procedures: For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus. See Hazardous Decomposition Products. Read the entire MSDS.

SPECIAL PRECAUTIONS

DO NOT weld, heat or drill container. Residue may ignite with explosive violence if heated sufficiently.

CAUTION! Do not use pressure to empty drum or explosion may result.

ENVIRONMENTAL PROTECTION

Environmental Impact: This material is not expected to present any environmental problems other than those associated with oil spills.
Precautions if Material is Released or Spilled: Stop the source of the leak or release. Clean up releases as soon as possible. Contain liquid to prevent further contamination of soil, surface water or groundwater. Clean up small spills using appropriate techniques such as sorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Follow prescribed procedures for reporting and responding to larger releases.
Waste Disposal Methods: Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material.

REACTIVITY DATA

Stability (Thermal, Light, etc.): Stable.
Incompatibility (Materials to Avoid): May react with strong oxidizing materials.
Hazardous Decomposition Products: Normal combustion forms carbon dioxide and water vapor and may produce oxides of sulfur and phosphorus; incomplete combustion can produce carbon monoxide.
Hazardous Polymerization: Will not occur.

PHYSICAL PROPERTIES

Solubility: Insoluble in water. Miscible with hydrocarbon solvents.
Appearance (Color, Odor, etc.): Dark green liquid
Boiling Point: n/a
Melting Point: n/a
Specific Gravity: 0.90 @ 15.6/15.6°C
Vapor Pressure: n/a
Vapor Density (Air=1): n/a
Percent Volatile (Volume %): n/a
Evaporation: n/a
Pour Point: -26°C (Max.)
Viscosity: 15.1 cSt @ 100°C (Min.)

n/a = Not Applicable
NDA = No Data Available

Material Safety Data Sheet

Prepared According to the OSHA Hazard Communication Standard (29 CFR 1910.1200).
(Formerly Called MATERIAL INFORMATION BULLETIN)

CHEVRON Ultra-Duty Grease 2 **CPS 254600**

TYPICAL COMPOSITION

Highly refined base oils (CAS 64741-96-4/64742-52-5, 64742-57-0 and 72623-85-9) and polymer	>75%
Additives including extreme pressure and tackiness agents, thickener and inhibitors, including a substituted benzotriazole (less than 0.5%)	<25%

EXPOSURE STANDARD

No Federal OSHA exposure standard or ACGIH TLV has been established for this material.

PHYSIOLOGICAL & HEALTH EFFECTS — EMERGENCY & FIRST AID PROCEDURES

Eyes

Expected to cause no more than minor eye irritation.

Flush eyes immediately with fresh water for at least 15 minutes while holding the eyelids open. If irritation persists, see a doctor.

Skin

Expected to cause no more than minor skin irritation following prolonged or frequently repeated contact. See Additional Health Data.

Remove contaminated clothing. Wash skin thoroughly with soap and water. If a skin rash develops, see a doctor. Launder contaminated clothing.

Inhalation

Not expected to be acutely toxic by inhalation.

Since this material is not expected to be an acute inhalation problem, no first aid procedures are required.

Ingestion

Not expected to be acutely toxic by ingestion.

If swallowed, give water or milk. Consult medical personnel before inducing vomiting. If advise cannot be obtained, take person and container to nearest emergency treatement center.

ADDITIONAL HEALTH DATA
See following pages

SPECIAL PROTECTIVE INFORMATION
Eye Protection: No special eye protection necessary.
Skin Protection: Avoid prolonged or frequently repeated skin contact with this material. Skin contact can be minimized by wearing impervious protective clothing including gloves.
Respiratory Protection: No special respiratory protection is necessary.
Ventilation: No special ventilation is necessary.

FIRE PROTECTION
Flash Point: n/a
Autoignition Temp.: NDA
Flammability Limits: n/a
Extinguishing Media: CO_2, Dry Chemical, Foam, Water Fog.
Special Fire Fighting Procedures: For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus. See Hazardous Decomposition Products. Read the entire MSDS.

SPECIAL PRECAUTIONS
DO NOT weld, heat or drill container. Residue may ignite with explosive violence if heated sufficiently.

CAUTION! Do not use pressure to empty drum or explosion may result.

ENVIRONMENTAL PROTECTION
Environmental Impact: This material is not expected to present any environmental problems.
Precautions if Material is Released or Spilled: Clean up spills immediately, observing precautions in Special Protective Information.
Waste Disposal Methods: Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material.

REACTIVITY DATA
Stability (Thermal, Light, etc.): Stable
Incompatibility (Materials to Avoid): May react with strong oxidizing materials.
Hazardous Decomposition Products: Normal combustion forms carbon dioxide and water vapor and may produce oxides of sulfur, nitrogen and phosphorus; incomplete combustion can produce carbon monoxide.
Hazardous Polymerization: Will not occur.

PHYSICAL PROPERTIES
Solubility: Soluble in hydrocarbon solvents; insoluble in water.
Appearance (Color, Odor, etc.): Red grease
Boiling Point: n/a
Melting Point: n/a
Specific Gravity: NDA
Vapor Pressure: n/a
Vapor Density (Air=1): n/a
Percent Volatile (Volume %): n/a
Evaporation: n/a

n/a = Not Applicable
NDA = No Data Available

Material Safety Data Sheet

ADDITIONAL HEALTH DATA

Experimental evidence indicates that substituted benzotriazole may cause allergic skin reactions. There is no evidence that human exposure to the low levels of the additive in this product will cause such skin reactions. However, we strongly recommend that the precautions outlined in this MSDS be followed to minimize contact with this product.

This product contains base oils which the International Agency for Research on Cancer (IARC) classifies as having no evidence of carcinogenic potential.

This product contains petroleum base oils refined by a combination of severe hydrocracking and hydrotreating. The carcinogenic potential of paraffinic base oils prepared by this process is not specifically addressed by OSHA, NTP, or IARC. However, the process conditions, chemical analyses, and the results of Ames tests all support our opinion that these oils are not carcinogenic.

(4)

SPECIALTY OIL COMPANY, INC.

MATERIAL SAFETY DATA SHEE

Also Sam's Club "All Weather Antifreeze" and "Auto-Gard"

I. MATERIAL IDENTIFICATION

NAME: WAL MART ANTIFREEZE/COOLANT
Specialty Oil Company Product Code S2100
Synonyms: Ethylene Glycol
Chemical Family: EPA Cas #107-21-1
Manufacturer: Specialty Oil Company, Inc.
Address: P. O. Box 8098, Shreveport, LA 71148

CAS Registry No.: Mixture; major components may be some combination of 107-21-1
Transportation Emergency No.: (800) 424-9300 (chemtrec)
Product Information No.: (318) 687-8000

II. HAZARDOUS INGREDIENTS — HAZARD DATA

Hazard Determination:

Health Effect Properties
Ethylene Glycol — Toxic to nervous system, kidney and liver.

Physical Effect Properties:
Product/Mixture: None. — Not applicable

III. PHYSICAL DATA

Appearance and Odor: Fluorescent green liquid; Mild glycol odor.

Boiling Point (°F)	320	Specific Gravity (H_2O=1)	1.125
Vapor Pressure (mmHg)	0.05	% Volatile (by volume)	NA
Vapor Density (Air=1)	2.14	Evaporation Rate (=1)	NA
Solubility in Water	Completely		

IV. REACTIVITY DATA — STABLE: X UNSTABLE:

Hazardous Decomposition Products: Carbon dioxide, carbon monoxide, vapors of ethylene glycol.

Conditions To Avoid: Strong oxidizing agents.

Hazardous Polymerization: Will not occur.

September 12, 1985

CAS Registry No.: 107-21-1

V. FIRE AND EXPLOSION HAZARD DATA LFL: 3.2 UFL: 15.3

Flash Point (Method used): 230°F (PMCC)
Handle and store in accordance with NFPA procedure for Class III B Combustible Liquid.

Extinguishing Media: Use water spray, dry chemical, alcohol resistant foam, or carbon dioxide.

Special Fire Fighting Procedures: Use water to keep fire-exposed containers cool. If leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for men attempting to stop a leak. Water spray may be used to flush spills away from exposures.

Unusual Fire and Explosion Hazards: Products of combustion may contain carbon monoxide, carbon dioxide and other toxic materials. Do not enter enclosed or confined space without proper protective equipment including respiratory protection. If water evaporates off, residual materials could burn. Small amounts of oxides of nitrogen can be produced.

National Fire Protection Agency (NFPA) CLASSIFICATION — HAZARD RATING
Health 1 Fire 1 Reactivity 0 — Least - 0 Slight - 1 Moderate - 2 High - 3 Extreme - 4

VI. TRANSPORTATION AND STORAGE DOT HAZARD CLASS: Not Applic

Precautions To Be Taken In Handling And Storing: Product is Class III B Combustible Liquid per NFPA Code No. 30-1984. Store and handle accordingly.

Shipping Paper Description: Not D.O.T. Regulated.

Placard: Not D.O.T. Regulated.

Label: Not D.O.T. Regulated.

VII. HEALTH HAZARD INFORMATION

PEL None available TLV 50 ppm or 125 mg/m^3 (Ceiling values)*
Ceiling Value 50 ppm or 125 mg/m^3*
AEL 50 ppm or 10 mg/m^3 as a time-weighted average*.

*These values are for ethylene glycol.

Primary Route(s) of Exposure/Entry: Skin, inhalation.

Signs and Symptoms of Exposure/Medical Conditions Aggravated By Exposure: No adverse health effect has been identified specifically for this product. Health effect information has been included for components of the product.

September 12, 1985

CAS Registry No.: 107-21-1

VII. HEALTH HAZARD INFORMATION (continued)

Ethylene glycol may cause irritation to eyes, lungs, or skin. Overexposure may cause central nervous system depression and liver or kidney toxicity.

Listed as Carcinogen or Potential Carcinogen by: NTP No IARC No OSHA No

VIII. EMERGENCY AND FIRST AID PROCEDURES

Eyes: Immediately wash with fresh water for at least 15 minutes and get medical attention.

Skin: Remove contaminated clothing as soon as possible. Wash exposed skin thoroughly with soap and water. If irritation persists, consult a physician.

Launder contaminated clothing before reuse. Extremely contaminated leather shoes should be discarded.

Inhalation: If overexposure occurs, remove individual to fresh air. If breathing stops, administer artificial respiration.

Ingestion: If this material is swallowed, do not induce vomiting. If vomiting begins, lower victim's head in an effort to prevent vomitus from entering lungs. Immediately consult a physician. Do not attempt to give liquid to an unconscious person.

Note to Physicians: Emergency procedure for ethylene glycol intoxication should be followed.

IX. SPILL, LEAK AND DISPOSAL PROCEDURES

RCRA HAZARDOUS WASTE: Yes ___ No X

In Case of Spill Or Leak: Contain spill immediately in smallest area possible. Recover as much of the product itself as possible by such methods as vacuuming, followed by soaking up residual fluids by use of absorbent materials. Remove contaminated items including soils and place in proper container for disposal. Avoid washing, draining or directing material to storm or sanitary sewers.

Waste Disposal Method: Recycle as much of the recoverable product as possible. Dispose of nonrecyclable material by such methods as controller incineration, complying with federal, state and local regulations.

CAS Registry No.: 107-21-1

X. PRECAUTIONARY MEASURES

Respiratory Protection: None normally required except under unusual circumstances such as described in Section V.

Ventilation: Normal shop ventilation.

Protective Gloves: Impervious.

Eye Protection: Chemical goggles.

Other Protective Equipment: Not normally required.

ON SITE TECHNOLOGIES, LTD.

RECEIVED
DEC 10 1998
ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

December 8, 1998

Four-Four Inc.
Attn.: Mike Hall
P.O. Box 821
Farmington, New Mexico 87499

Project No.: 4-1532

RE: Four-Four, Inc., Diesel, New and Used Oil Spill on State Route 539, San Juan County, New Mexico

Introduction:

On October 27, 1998 at approximately 2:00 PM, ***On Site Technologies Limited Partnership*** was contacted by Four-Four Inc. to respond to a spill from an overturned service truck, which occurred at 1:00 PM. The truck had spilled approximately 600 gallons of diesel and approximately 200 gallons of new and used oils. The accident occurred on State Route 539 approximately one half-mile south of the Navajo Dam at Mile Marker 5.

Summary:

During a heavy rainstorm, a northbound service truck had overturned on a curve in the paved road at the top of a steep slope running from south to north. The truck ended up on its right side facing west. The diesel and oil tanks had leaked their contents on to the roadway. To prevent further spreading of the product, berms of SphagSorb® absorbent was placed around the truck and tanks. The remaining fuel and oil were removed from the truck's dispensing tanks, to prevent any additional spillage when the truck was righted. The seasonal downpour had spread the product down the roadway and along both sides of the right of way. The Farmington Hazardous Materials Response Team had placed booms along the roadway to aid in containing the spill. The New Mexico Highway Department closed the roadway to public travel. The roadway would reopen only after the clean up was completed and had been inspected to ensure that the roadway was safe to travel. Retention dams were built of the west side of the road to contain the product. The product on the east side of the road was contained by a wildlife drinking water impoundment.

On the east side of the roadway, the diesel and oil traveled down to a pond used for the watering of wildlife. The product covered approximately two-thirds of the water surface. To remove the diesel and oil, vacuum trucks were called in. The diesel and oil was vacuumed from the surface. Due to continuing heavy rain, potentially contaminated water was also vacuumed from the pond to prevent overtopping of the impoundment berm. Approximately 13,000 gallons of water, diesel and oil was removed from the pond. Water samples were taken from the vacuum trucks to characterize the contaminated water for disposal. Samples were placed in laboratory supplied containers, and labeled for transportation to ***On Site Technologies'*** laboratory for analysis for BTEX, Total Petroleum Hydrocarbons (TPH) and RCRA Toxic metals. See attached tables #1 for the laboratory results.

To prevent any wildlife from drinking from the pond, a temporary fence was placed around the pond, until laboratory analysis of the pond water samples are completed.

To prevent further contamination of the pond, the top six (6) to eight (8) inches of soil were removed from the east side of the roadway and out to approximately ten (10) feet east of the shoulder of the roadway. The removed soil was placed into a lined containment for proper future disposal.

The diesel and oil that remained on the surface of the pond was covered with SphagSorb® absorbent to encapsulate and prevent further contamination.

The diesel and oil had traveled down the west side of the road along the natural watercourse towards the water shed for the San Juan River. To prevent migration of the product off site two retention dams that were constructed. Underflow pipes were placed in the retention dams to aid in eliminate the water, while containing the product. To prevent any product from traveling through the underflow pipes, booms were placed on the inlet side of the retention dams above the underflow pipes. SphagSorb® absorbent was spread to absorb the product and prevent further migration.

The spent absorbent from the pond and retention dams was removed using pool skimmers and placed into a lined containment for proper disposal.

The roadway was covered with SphagSorb® absorbent to absorb any product remaining on the roadway. The spent absorbent was picked by sweeping it into the bucket of the backhoe using street brooms. The spent absorbent was placed in a lined containment area.

On October 28, 1998, water samples were taken from the pond, placed in laboratory supplied containers, and labeled for transportation to ***On Site Technologies'*** laboratory for analysis per EPA Method 8020 BTEX and Naphthalene, as well as Oil and Grease per EPA Method 413.2. Chain of Custody protocol was followed throughout. See attached Table #2 for the laboratory results.

The water that was removed from the pond is stored in a water storage tank at M&R Trucking. The vacuumed water will be disposed of at the Key Energy disposal well, of Aztec, New Mexico.

The contaminated surface soils from the west side of the roadway were excavated to depth ranging from six (6) to twenty-four (24) inches and approximately thirty (30) feet out from the shoulder of the roadway. The removed soil was placed into a lined containment for future disposal. Soil samples were taken from the runoff areas, field screened using the Heated Headspace Method, with an Organic Vapor Monitor with Photoionzing Detector (PID). To document closure, selected samples were placed in laboratory supplied containers, and labeled for transportation to ***On Site Technologies'*** laboratory for analysis per EPA Method 8015M Diesel Range Organics. Chain of Custody protocol was followed throughout. A composite sample was taken of the "worst case" contaminated soils and submitted for waste characterization of the soil in lined containment area. See attached Table #3 and #4 for the laboratory results.

On October 29, 1998, the excavated areas were filled with clean imported backfill, re-seeded with BLM-1Seed mix, and mulch spread over the area. This was done to facilitate opening the roadway, although the laboratory results were not available to determine if further excavation would be required. Sand was spread over the roadway to further remove

any product and to make the roadway safe for vehicular travel. The sand was removed using a street sweeper and placed in the lined containment area.
New Mexico Highway Department was notified that the roadway needed to be inspected and opened to the public.

On October 30, 1998, New Mexico Highway Department opened the roadway to the public. The contaminated soils had been removed from the lined containment, approximately 140 cubic yards of contaminated soil and were transported to Tierra Environmental Company Inc.

The liner was removed and composite samples were taken from the east, center and west areas of the containment site, above the native soils. Samples were placed in laboratory supplied containers, and labeled for transportation to ***On Site Technologies'*** laboratory for analysis per EPA Method 8015M Diesel Range Organics. See attached Table #3 for the laboratory results. The uncontaminated earthen berms were re-spread over the area of the former containment site.

Samples were taken from the borrow ditch along the west edge of the roadway, down gradient of the retention dams and along the watercourse, to see if any product had traveled down gradient of the spill. See attached table #3 for laboratory results.

After review of the laboratory results for samples taken from the pond October 28,1998 and discussions with Mr. Bill Liess of Bureau of Land Management and Mike Hall of Four-Four Inc, it was decided to re-sample the pond waters, due to high levels of Naphthalene. On November 12, 1998, Mr. Larry Trujillo of ***On Site Technologies*** went to the spill location and resampled the pond.

The laboratory results of the pond water sampling done on November 12, 1998, inducates that the hydrocarbon contamination levels have declined to NMWQCC standards. See table #2 for laboratory results.

Conclusion:

The following conclusions have been determined through field observation, laboratory results and past experience in spill response, site reclamation and site remediation.

- There appear to be three specific locations of the spill site that exhibit laboratory result above 1000 parts per million of hydrocarbon contamination.
- The site reclamation efforts have returned the site to as near pre-accident condition as possible.
- The areas that are identified, by laboratory results, as having moderate to elevated levels of hydrocarbon contamination pose no immediate danger to the environment or human health. Natural occurring microorganisms, should over a period of time, decrease the levels of hydrocarbon contamination below regulatory Maximum Contaminate Levels.
- The hydrocarbon contamination levels, of the wildlife drinking pond have declined below NMWQCC standards.

Recommendations:

1. The site should be re-sampled in six months to determine if natural attenuation has decreased the levels of contamination.
2. The site can be considered stable, and no further remedial action should taken at this time.
3. The fence around the wildlife drinking pond should be removed and the pond water should be considered safe for wildlife comsumption.

The scope of our services consisted of the performance of spill assessment, spill containment, clean-up operations, field screening of soil sample, soil sampling, water sampling, on site coordination with state and federal agencies and project management and preparation of a summary. All work has been performed in accordance with generally accepted environmental engineering and hazardous material management practices.

This document has been prepared by ***On Site Technologies*** for the exclusive use of Four-Four Inc., as it pertains to the referenced location and incident.

If there are any question or concerns about this matter, feel free to contact Cynthia Sluyter-Gray or Larry Trujillo at (505) 325-5667. Thank you for allowing ***On Site*** to assist in this matter.

Respectfully submitted,

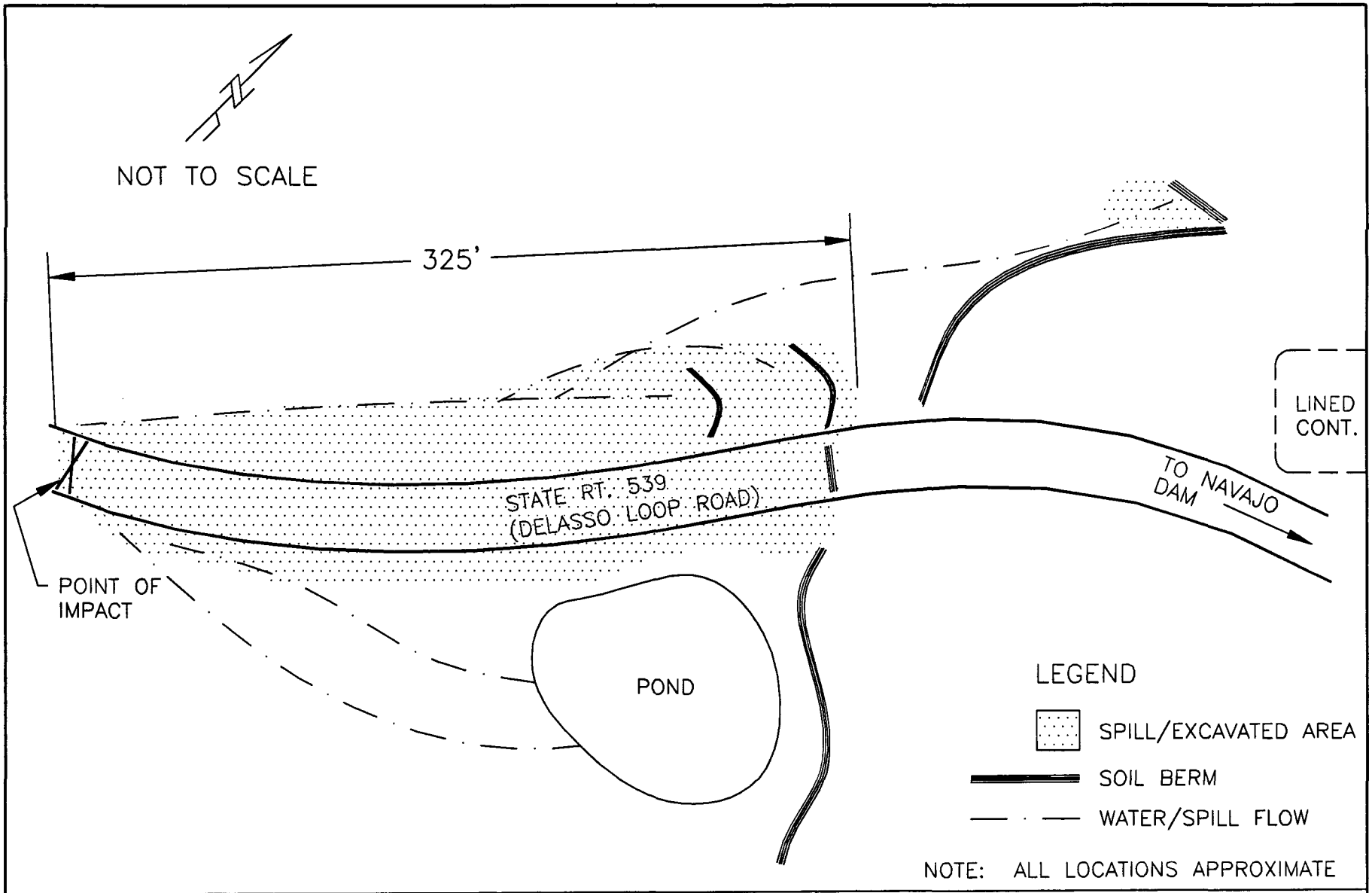
Larry Trujillo, C.H.M.M.
Sr. Environmental Technician

Attachments:

Laboratory Results Tables
Site Location Map
Sample Location Map
Accident Report
Spill Report, NMOCD
Waste Certification for Soil and Water
Laboratory Results QA/QC, Chain of Custody
Material Safety Data Sheets
Site Photos

cc:

Jim Malaney, NMED
Frank Chavez, NMOCD, Aztec Office
Denny Foust, NMOCD, Aztec Office
Bill Olson, NMOCD, Santa Fe
Bill Liess, BLM, Farmington
Eric Burnham, NM State Patrol, Farmington
File



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REVISED:	DATE:
REVISED:	DATE:
APPROVED: LET	DATE: 11/24/98
DRWN BY: MED	DATE: 11/24/98
CHK'D BY:	DATE:

ON SITE TECHNOLOGIES, LTD. Limited Partnership
612 E. MURRAY DR.
FARMINGTON, NM 87401
PH. (505) 325-5667
FAX (505) 327-1496

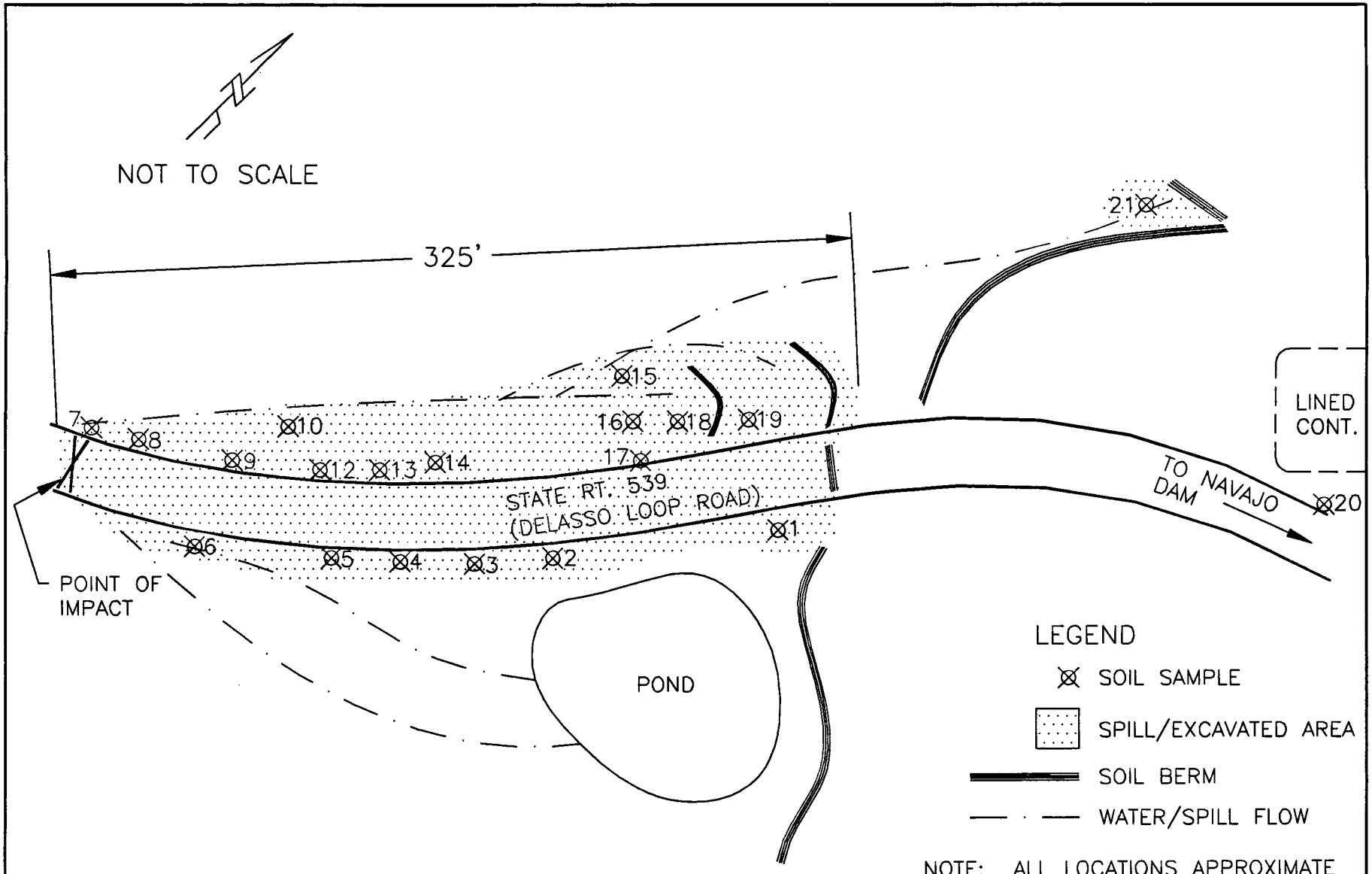
SITE SKETCH
DELASSO LOOP ROAD SPILL

FOUR-FOUR, INC.

Farmington, NM

PROJECT NO: 4-1532 | SHEET: 2 OF 2

41532DEA2



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DRWN BY: MED	DATE: 11/24/98
CHK'D BY:	DATE:

ON SITE TECHNOLOGIES, LTD. Limited Partnership
612 E. MURRAY DR.
FARMINGTON, NM 87401
PH. (505) 325-5667
FAX (505) 327-1496

SAMPLE LOCATIONS
DELASSO LOOP ROAD SPILL

FOUR-FOUR, INC.

Farmington, NM

PROJECT NO: 4-1532 | SHEET: 1 OF 2

41532DEA1

On Site Technologies, Ltd.
Four-Four Inc.
DeLasso Loop Road Spill

December 8, 1998
Project No. 4-1532

LABORATORY RESULTS OF WATER SAMPLES

TABLE #1

	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	TOTAL XYLENE (PPB)	TPH, WATER (PPM)
VACCUMED WATER SAMPLE	170	790	98	1440	14.0
NMWQC	10	750	750	620	

RCRA METALS PPM EPA METHODS 6010, 7470							
Mercury (Hg)	Arsenic (As)	Barium (Ba)	Cadmium (Cd)	Chromium (Cr)	Lead (Pb)	Selenium (Se)	Sliver (Ag)
<0.0005	<0.1	8.65	<0.05	0.085	<0.1	<0.1	<0.05
NMWQCC 0.05	0.1	1.0	0.01	0.05	0.05	0.05	0.05

WILDLIFE DRINKING POND

TABLE #2

	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	TOTAL XYLENE (PPB)	NAPHTHALENE (PPB)	OIL & GREASE (PPM)
POND WATER SAMPLE 10/28/98	BDL	6.4	6.6	83.0	120.0	25.0
POND WATER SAMPLE 11/12/98	BDL	BDL	BDL	BDL	2.8	BDL
NMWQCC	10	750	750	620	30	No Standard

On Site Technologies, Ltd.
Four-Four Inc.
DeLasso Loop Road Spill

December 8, 1998
Project No. 4-1532

LABORATORY RESULT FOR SOIL SAMPLING

Table #3

SAMPLE NUMBER	PID UNITS	TIME	DATE	8015.MOD DRO RESULTS (PPM)
East side 1	0.0	1101	10/28/98	BDL
East side 2	43.2	1112	10/28/98	780
East side 3	65.1	1117	10/28/98	1400
East side 4	11.6	1118	10/28/98	N/L
East side 5	1.4	1119	10/28/98	N/L
East side 6	52.3	1120	10/28/98	1100
West side 7	2.0	1204	10/28/98	BDL
West side 8	1.4	1205	10/28/98	N/L
West side 9	1.2	1327	10/28/98	N/L
West side 10	1.9	1328	10/28/98	N/L
West side 12	1.0*	1336	10/28/98	N/L
West side 13	1.0*	1342	10/28/98	BDL
West side 14	1.0*	1345	10/28/98	N/L
West side 15	1.0*	1424	10/28/98	26
West side 16	1.0	1425	10/28/98	N/L
West side 17	30.2	1426	10/28/98	9400
West side 18	0.9*	1427	10/28/98	N/L
West side 19	29.6	1429	10/28/98	860

PID, PHOTOIONZING DETECTOR
DRO, DIESEL RANGE ORGANICS
BDL, BELOW DETECTION LIMITS
MAYBE BACKGROUND INTERFERANCE
N/L, NO LABORATORY SAMPLE

SAMPLE NUMBER	DATE	8015.MOD DRO RESULTS (PPM)
Down Gradient 20	10/29/98	BDL
Down Gradient 21	10/29/98	BDL
3 Pt. Composite Containment area S-22	10/30/98	130.0
2 Pt. Composite Containment area S-23	10/30/98	100.0

BDL, BELOW DETECTION LIMITS

On Site Technologies, Ltd.
Four-Four Inc.
DeLasso Loop Road Spill

December 8, 1998
Project No. 4-1532

RESULTS OF 6-POINT COMPOSITE OF SOIL IN LINED CONTAINMENT.

Table #4

	8015 PPM		8020 BTEX PPB				
SAMPLE	DRO	GRO	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENE	TOTAL BTEX
6-PT. COMPOSITE STOCKPILE	16000.0	440.0	410	4900	4600	31100	41010

TCLP/RCI											
METALS PPM								RCI/			
								Reactivity		Corrosivity	Ignitability
Hg	As	Ba	Cd	Cr	Pb	Se	Ag	Cyanide	Sulfide		
BDL	BDL	1.02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	7.88	Negative

BDL, BELOW DETECTION LIMITS

NEW MEXICO STATE POLICE

REPORTING DEPARTMENT

880546

☐ ON PRIVATE PROPERTY ☐ FATAL ☒ INJURY ☐ PROPERTY DAMAGE ONLY ☐ UNDER $500 ☐ $500 OR MORE ☐ HIT AND RUN

STATE OF NEW MEXICO UNIFORM ACCIDENT REPORT

DATE OF ACCIDENT	Military Time	CITY OCCURRED IN	COUNTY	SHEET
MO./10 DAY/ 27 YR./98	1205	NONE	Rio Arriba	1 OF 3 SHEETS

SUN ☐ M ☐ T ☒ W ☐ T ☐ F ☐ SAT ☐

OCCURRED ON: (ROUTE NO. OR NAME) SR 539

AT INTERSECTION WITH: NONE

OTHER LOCATION .9 ☐ FEET ☒ MILES N ☐ S ☒ E ☐ W ☐ OF: SR 511

MILEPOST LOCATION .2 ☐ FEET ☒ MILES N ☐ S ☒ E ☐ W ☐ OF MILE POST NO: MP 5

PERMANENT LANDMARK - COUNTY LINE - INTERSECTION

FOR USE BY ORIGINATOR

ACCIDENT OCCURRED ☒ On Roadway ☐ Off Roadway

ACCIDENT CLASSIFICATION ☒ Overturned ☐ Other Non-Col. ☐ Pedestrian ☐ Other Vehicle ☐ Vehicle On Other Roadway ☐ Parked Veh. ☐ R.R. Train ☐ Pedalcyclist ☐ Animal ☐ Fixed Object ☐ Other Object

VEHICLE NO. 1

VEHICLE NO. 1 HEADED N ☒ S ☐ E ☐ W ☐ ON: SR 539 — Posted Speed: — Safe Speed: 10

Driver's Full Name	Address	Zip Code	Phone
ROBERT GRILALVA	#11 CR 3192 AZTEC NM	87410	820-3711

Driver License Number	State	Type	Restrictions	Expires	Date of Birth
101914119	NM	D	NONE	1-4-74	Mo.12 /Day4 /Yr74

Seat Position Code	7.	Social Security Num.	Occupation	Seat Belt	Helmet Yes No	Age	Sex	Injury
LR LF / CR CF / RR RF	OTHER	[redacted]	FOUR FOUR INC.	2	NA	23	M	B1

Seat Pos.	Occupant's Name	Occupant's Address / Zip Code					
	NONE						

Vehicle Yr	Vehicle Make	Color	Body Style	Removed To:	Removed By:
88	FORD	WHI	CM	HIGH RIDGE TOW YARD	HIGH RIDGE TOWING

License Yr.	State	License Number	US DOT/ICC/SCC Numbers	VIN	Owner's Telephone
PERM	NM	IRE-1077	US DOT 147703	1FDXK84A7JVA35211	

Owners Name	Owner's Address	Zip Code
FOUR FOUR INC.	PO BOX 3860 FARMINGTON NM	87499

Insured By: (Name of Company)	Policy Number	Liability Insurance	VEHICLE DAMAGE
MOUNTAIN STATES MUTUAL	BAP 0007339	☒ Yes ☐ No	☒ HEAVY SLIGHT ☐ ☐ MODERATE NONE ☐

VEHICLE NO. 2 / PEDESTRIAN / OTHER

VEHICLE NO. 2 HEADED N ☐ S ☐ E ☐ W ☐ ON: — Posted Speed: — Safe Speed:

Driver's Full Name	Address	Zip Code	Phone

Driver License Number	State	Type	Restrictions	Expires	Date of Birth
					Mo. /Day /Yr

Seat Position Code	7.	Social Security Num.	Occupation	Seat Belt	Helmet Yes No	Age	Sex	Injury
LR LF / CR CF / RR RF	OTHER							

Seat Pos.	Occupant's Name	Occupant's Address / Zip Code					

Vehicle Yr	Vehicle Make	Color	Body Style	Removed To:	Removed By:

License Yr.	State	License Number	US DOT/ICC/SCC Numbers	VIN	Owner's Telephone

Owners Name	Owner's Address	Zip Code

Insured By: (Name of Company)	Policy Number	Liability Insurance	VEHICLE DAMAGE
		☐ Yes ☐ No	☐ HEAVY SLIGHT ☐ ☐ MODERATE NONE ☐

INJURED First Aid Rendered By	Injured Taken To	By
EMS	SJRMC	AMBULANCE

DESCRIPTION OF PROPERTY AND DAMAGE

OTHER PROPERTY INVOLVED: NONE

Owner's Name	Owner's Address/Zip Code	Owner Phone

WITNESS

Name	Age	Address	Telephone
UNKNOWN TO			
THIS OFFICER			

INJURY CODES

K-Killed
K1 Head K3 Neck
K2 Chest K4 Other

A-Incapacitated Carried From Scene
A1 Head A4 Neck
A2 Chest A5 Arm/Leg
A3 Back

B- Visible Injury
B1 Head B4 Neck
B2 Chest B5 Arm/Leg
B3 Back

C- Complaint-No Visible
No Visible Injury
O- No Apparent Injury

RESTRAINT CODES

1. Restraints-Not Installed
2. Restraints-Not Used
3. Lap Belts-Used
4. Shoulder Harness-NotUsed
5. Shoulder Harness-Used
6. Belt & Harness-Used
7. Ejected From Vehicle
8. Child Restraint Devices
A. Used Properly
B. Not Used
C. Used Improperly
9. Airbag Deployed
A. Other Restraints Not
B. Other Restraints Used

LIGHTING (Check One)	WEATHER (Check One)	ROAD COND. (Check One For Each)	ROAD SURFACE (Check One For Each)	TRAFFIC CONTROL (Check One For Each)	ROAD CHARACTER (Check One)	ROAD DESIGN (Check One or More For Each)	
☒ Daylight ☐ Dawn ☐ Dusk ☐ Dark Lighted ☐ Dark - Not Lighted ☐ Other	☒ Clear ☐ Raining ☐ Snowing ☐ Fog ☐ Dust ☐ Wind ☐ Other	☒ ☐ Dry ☐ ☐ Wet ☐ ☐ Snow ☐ ☐ Ice ☐ ☐ Loose Material ☐ ☐ Other	☐ ☐ Paved Unstriped ☐ ☐ Paved Center Stripe ☒ ☐ Paved Center & Edgeline ☐ ☐ Unpaved	☐ ☐ No Passing Zone ☐ ☐ Stop Sign ☐ ☐ Traffic Signals ☐ ☐ Yield Sign ☐ ☐ R.R. Gate ☐ ☐ 4 Way Stop ☐ ☐ Flashers ☒ ☐ No Controls ☐ ☐ Other	☐ Straight ☒ Curve GRADE (Check One) ☐ Level ☐ Hillcrest ☒ On Grade ☐ Dip	☒ ☐ 1 Lane ☐ ☐ 2 Lanes ☐ ☐ 3 Lanes ☐ ☐ 4 Lanes ☒ ☐ Undivided ☐ ☐ Physi. Div ☐ ☐ Paint Div	☐ ☐ One Way ☐ ☐ Ramp ☐ ☐ Freeway ☐ ☐ Undevelop ☐ ☐ Alley ☒ ☐ Other ☐ ☐ Construct. Zone

APPARENT CONTRIBUTING FACTORS (Check One or More For Each)			WHAT DRIVERS WERE DOING (Check One for Each)	
☒ ☐ Excessive speed	☐ ☐ Following too closely	☐ ☐ Defective tires	☐ ☐ Going straight	☐ ☐ Stopped for traffic
☐ ☐ Speed too fast for conditions	☐ ☐ Made improper turn	☐ ☐ Other mechanical defect	☐ ☐ Overtaking-passing	☐ ☐ Stopped for sign/signal
☐ ☐ Failed too yield right of way	☐ ☐ Driver inattention	☐ ☐ Road defect	☐ ☐ Right turn	☐ ☐ Start in traffic lane
☐ ☐ Passed stop sign	☐ ☐ Under influence of alcohol	☐ ☐ Other- not involving driver error	☐ ☐ Left turn	☐ ☐ Start from park
☐ ☐ Disregarded traffic signal	☒ ☐ Other improper driving	☐ ☐ Traffic control not functioning	☐ ☐ U-turn	☐ ☐ Parked
☐ ☐ Drove left of center	☐ ☐ Pedestrian Error	☐ ☐ Improper lane change	☒ ☐ Slowing	☐ ☐ Other
☐ ☐ Improper overtaking	☐ ☐ Inadequate brakes	☐ ☐ None	☐ ☐ Backing	

DRIVER OR PEDESTRIAN SOBRIETY (Check One or More For Each)	DRIVER OR PEDESTRIAN PHYSICAL CONDITION (Check One or More For Each)		PEDESTRIAN	PEDESTRIAN ACTION	
				At intersection	Not at intersection
☐ ☐ HBD (Had Been Drinking)	☐ ☐ Fatigue-Asleep	☐ ☐ Hearing imp.		☐ ☐ With signal	☐ ☐ From behind ☐ ☐ Walk against traffic
☐ ☐ Tested by instrument	☐ ☐ Medication	☒ ☐ No App. Defects		☐ ☐ Against signal	☐ ☐ No crosswalk ☐ ☐ Standing
☒ ☐ Had not been drinking	☐ ☐ Eyesight imp.	☐ ☐ Ill		☐ ☐ No signal	☐ ☐ Crosswalk ☐ ☐ Pushing or Working
☐ ☐ Sobriety unknown	☐ ☐ Amputee	☐ ☐ Other physical impairment*		☐ ☐ Diagonal	☐ ☐ Walking W/ tr. on vehicle
☐ ☐ Failed sobriety test					☐ ☐ Other* ☐ ☐ Playing in road
☐ ☐ Eye gaze/Nustagmus	*Specify --				*Specify _____

Diagram Drawn By: GUY E. ARCHULETA | Measurements By: GUY E. ARCHULETA | Leave Blank

DIAGRAM ON SUPPLEMENTAL

☐ Indicate North by Arrow

Use Supplemental Diagram/Narrative Sheet for additional information

NARRATIVE (Describe how accident occurred). ON SUPPLEMENTAL

TRAILER OR TOWED VEHICLES	TOWED BY VEH. #	Year	Make	Lic. Yr. - State - Number	Type
		NA			
	TOWED BY VEH #	Year	Make	Lic. Yr. - State - Number	Type

ENFORCEMENT ACTION	VEH. NO.	Name	Violation	W	B	C	Citation No.
	1	ROBERT GRIJALVA	CARELESS/NO SEAT BELT	☐	☐	☒	3008214 3008215
	1	ROBERT GRIJALVA	QUALIFICATION OF DRIVER	☐	☐	☒	3008216
	1	ROBERT GRIJALVA	TRANS. OF HAZ-MAT	☐	☐	☒	3008217

Time Notified	Time Arrived	Notified By	Supvr. at Scene	Checked By
1220	1300	DISPATCH	CAPT. PEARSON	

Officer's Signature	Rank	ID No.	District	Date of Report
	PTLM	162	10	10-28-98

NEW MEXICO STATE POLICE
HAZARDOUS MATERIALS EMERGENCY RESPONSE
ACCIDENT/INCIDENT REPORT

01 ORI NM NMNSP0000 SP DISTRICT 10 | 02 GEO 10 | 03 FILE NUMBER H 981012

EVENT

04 DATE & TIME 10/27/94 1314 | to | DATE & TIME | 05 TYPE: Accident [X] Incident [ ]

06 Premise Type: [X] 1 Highway [ ] 2 Commerce [ ] 3 Plant [ ] 4 Business [ ] 5 Service Station [ ] 6 Rail Yard [ ] 7 Tracks [ ] 8 Other

07 SPECIFIC LOCATION: STATE ROAD 539 NEAR THE 5 MILE POST, 9 MILES SOUTH OF SR 511.

CARRIER

08 COMPLAINANT NAME: BUREAU OF LAND MANAGEMENT | PHONE RES. N/A
ADDRESS: 1235 LA PLATA HWY | CITY: FARMINGTON | STATE: NM | PHONE BUS. 599-8900

09 CARRIER NAME: FOUR FOUR INC. | PERSON CONTACTED (Carrier): FRED CAMACHO | PHONE RES. 326-6417
ADDRESS: P.O. BOX 3860 | CITY: FARMINGTON | STATE: NM | PHONE BUS. 327-6041

SHIPPER

10 SHIPPER NAME: FOUR FOUR INC. | PERSON CONTACTED (Shipper): FRED CAMACHO | PHONE RES. 326-6417
ADDRESS: PO BOX 3560 | CITY: FARMINGTON | STATE: NM | PHONE BUS. 327-6041

DRIVER

11 DRIVER NAME: GRIJALVA, ROBERT | SOC. SEC. NO: 585-23-5711 | DOB: 12/04/74
ADDRESS: #11 CR 3192 A | CITY: AZTEC | STATE: NM | PHONE 8203711

VEHICLE

12 MAKE: FORD | MODEL: TK | YR: 88 | VIN: 1FDXK84A7JVA55211
LICENSE NO.: IRE 1077 | LIS: NM | LIY: PERM | NUMBER OF CARS ON TRAIN: 0 | LOCATION OF CARS ON TRAIN: N/A | TRAIN CAR NO.(s): N/A

13 VEHICLE PLACARDED: [ ] 1 No [X] 2 Yes | PLACARD NO.: 1203 | BILL OF LADING ON SCENE: [X] No [ ] Yes | BILL OF LADING NO.: NONE

MATERIAL

14 NAME OF MATERIAL (Shipping Name): 1. DIESEL FUEL & WASTE OIL 3. ANTI FREEZE | MATERIAL ID. NO. | UN 1203 | DOT 147703

REFERENCE MATERIAL USED: EMERGENCY RESPONSE GUIDE BOOK

15 Material Type: [ ] 1 Explosive [ ] 2 Gas [X] 3 Liquid [ ] 4 Solid [ ] 5 Peroxide [ ] 6 Poison [ ] 7 Radioactive [ ] 8 Corrosive

16 Shipped By: [ ] 1 Trailer [ ] 2 Box Car [ ] 3 Tank Truck [ ] 4 Tank Car [X] 5 Storage Tank [ ] 6 Pipeline [ ] 7 Air Cargo [ ] 8 Other

17 Load is: [X] 1 Mixed [ ] 2 Full [ ] 3 Partial [ ] 4 Empty [ ] 5 Unknown [ ] 6 Other

18 Package/Container: [ ] 1 Bulk [ ] 2 Drum [X] 3 Box [ ] 4 Carton [ ] 5 Cylinder [X] 6 Barrel [ ] 7 Bag [ ] 8 Other 1203
Placarded: [X] No [ ] 2 Yes

19 Material Release: [ ] 1 Leak [X] 2 Spill [ ] 3 Vapors [ ] 4 Dust [ ] 5 Mist [X] 6 Runoff [ ] 7 Airborne [ ] 8 None [ ] 9 Other

20 Fire: [X] 1 No [ ] 2 Yes [ ] 3 Possible
CONTAINED [ ] 1 No [X] 2 Yes

21 Flammability: [ ] 1 Very [ ] 2 Quite [X] 3 Moderate [ ] 4 Slight [ ] 5 Non-flammable

22 Highway Routes
- [ ] 1 Open
- [X] 2 Closed
- [ ] 3 Interstate
- [ ] 4 US Highway
- [X] 5 State Rd.
- [ ] 6 County Rd.
- [ ] 7 Alternate
- [ ] 8 Other

23 Area Type:
- [X] 1 Rural
- [ ] 2 Urban
- [ ] 3 Industry
- [ ] 4 Recreation
- [ ] 5 Agriculture
- [ ] 6 Livestock
- [ ] 7 Other

24 Terrain Involved:
- [X] 1 Ground soil
- [X] 2 Surface Water
- [X] 3 Ground Water
- [X] 4 Canals
- [ ] 5 Storm drains
- [ ] 6 Vegetation
- [ ] 7 Utilities
- [ ] 8 Other

25 Weather Conditions:
- [ ] 1 Clear
- [ ] 2 Ptly Cloudy
- [ ] 3 Overcast
- [X] 4 Stormy
- [ ] 5 Other
- [X] Temp 49 F
- [X] Wind 8 mph
- [X] Direction WEST
- [X] Raining UNKNOWN
- [ ] 11 Snowing ____ in.
- [ ] 12 Visibility ____ mi.

26 Department Required:
- [ ] 1 City Police
- [X] 2 County Sheriff
- [X] 3 Fire Department
- [X] 4 Ambulance/Medical
- [X] 5 Highway Dept.
- [ ] 6 Health Dept.
- [ ] 7 Volunteers
- [X] Other BLM

27 Protective Clothing Required
- [ ] 1 Full Gear
- [ ] 2 Full Bunker
- [ ] 3 Rad. Suit
- [X] 4 Gloves
- [X] 5 Boots
- [X] 6 Goggles
- [ ] 7 Ear Protection
- [X] 8 Hard Hats
- [ ] 9 Breathing Apparatus
- [ ] 10 Other

28 Equipment Required:
- [X] 1 Loader
- [ ] 2 Bulldozer
- [X] 3 Dump Truck
- [ ] 4 Crane
- [ ] 5 Other

29 Release Contained:
- [ ] 1 No
- [X] Yes

30 Public/Residents:
- [ ] 1 Exposed
- [ ] 2 Contaminated
- [ ] 3 Injured
- [ ] 4 Evacuated
- [ ] 5 Rescued
- [ ] 6 Fatal
- [X] N/A
- [ ] 8 Other

31 Response Personnel:
- [ ] 1 Exposed
- [ ] 2 Contaminated
- [ ] 3 Injured
- [ ] 4 Evacuated
- [ ] 5 Rescued
- [ ] 6 Fatal
- [X] N/A
- [ ] 8 Other

32 Evacuation Distances: 50 YARDS

NARRATIVE

33 Description of Commodity (Physical), i.e. color, odor, etc: DIESEL FUEL, WASTE OIL AND ANTIFREEZ

34 Provide a brief narrative outlining the accident/incident: SEE SUPPLEMENTAL

35 Final Disposition: PRODUCT REMOVED AND AREA RESTORED BY ON SITE TECHNOLOGIES.

36 Comments: SEE SUPPLEMENTAL

ADMINISTRATION

Adequacy of Data

37 Reference Guides
- [ ] 1 Poor
- [ ] 2 Fair
- [ ] 3 Moderate
- [X] Good
- [ ] Limited

38 Response Personnel
- [ ] 1 Poor
- [ ] 2 Fair
- [ ] 3 Moderate
- [X] Good
- [ ] 5 Limited

39 Overall
- [ ] 1 Poor
- [ ] 2 Fair
- [ ] 3 Moderate
- [X] Good
- [ ] 5 Limited

40 District Emergency Response Officer: ERIC BURNHAM

Social Security Number: [redacted]

41 HMER Administrator: CAPT. BROCKMEIER

Social Security Number:

STATE OF NEW MEXICO UNIFORM ACCIDENT REPORT
SUPPLEMENTAL DIAGRAM/NARRATIVE

Date	Time	Location	County
10-27-98	1205	SR 539 MP 5	RIO ARRIBA
Driver No.1 ROBERT GRIJALVA			Sheet 2
Driver No.2			Of 3

ON 10-28-98 AT ABOUT 1220HRS I WAS NOTIFIED BY DISPATCH OF A ONE VEH. ACCIDENT WITH INJURIES THAT OCCURED ON SR 539 NEAR MILEPOST 5. UPON MY ARRIVAL I OBSERVED A WHITE COMMERCIAL VEH. LYING ON THE PASSENGER SIDE IN THE MIDDLE ON THE ROAD FACING WEST.

THE DRIVER WAS WALKING TO THE AMBULANCE WHEN I CONTACTED HIM. HE STATED THAT HE WAS TRAVELING NORTH ON SR 539, GOING DOWN A HILL. HE THEN STATED THAT WHEN HE APPLIED THE BRAKES THE VEH. WOULD NOT SLOW DOWN. HE TRIED TO DOWN SHIFT BUT HE WAS ALREADY TRAVELING TO FAST AND WAS UNABLE TO PUT THE VEH. IN A LOWER GEAR. HE PUT THE VEH. IN A HIGHER GEAR AS HE WAS APPROACHING A SHARP CURVE. HE TRIED TO STEER THE VEH. SHARP INTO THE CURVE WHEN HE FELT THE BACK END OF HIS VEHICLE START TO SLIDE. THIS IS WHEN THE VEH. STARTED TO SKID BROADSIDE (COUNTER CLOCKWISE) AND TURN OVER ON IT'S SIDE, SLIDING TO A STOP IN THE MIDDLE OF THE ROAD.

ON 10-28-98 AT ABOUT 1100HRS I MET WITH OFFICER CARL HENDERSON, WHO WORKS FOR MOTOR TRANSPORTION DIVISION, AT HI RIDGE TOWING YARD. THIS IS WHERE VEH-1 WAS TAKEN AFTER THE ACCIDENT. OFFICER HENDERSON THEN PERFORMED AN INSPECTION ON THE BRAKE SYSTEM. THE FRONT BRAKES APPEARED TO BE IN WORKING CONDITION, THE BRAKE LINES WERE IN GOOD CONDITION, THE LEFT REAR BRAKE LOOKED LIKE IT WAS WITHIN REGULATION, AND THE RIGHT REAR BRAKE LOOKED TO BE OUT OF ADJUSTMENT. OFFICER HENDERSON STATED THAT IT WAS NOT OUT OF ADJUSTMENT ENOUGH TO CAUSE THE VEH. TO LOOSE THE BRAKES. DURING THE INSPECTION THE MAXY BRAKES WERE LOCKED WHICH INDICATES THAT MAXY BRAKES WERE OPERATIONAL

BASED ON THE PHYSICAL EVIDENCE THAT WAS LEFT AT THE SCENE AND THE INSPECTION OF THE BRAKE SYSTEM THAT WAS PERFORMED BY MTD OFFICER CARL HENDERSON I BELIEVE THAT THE VEH. DID NOT LOOSE IT'S BRAKES, DO TO THE SKID MARKS THAT WERE LEFT BY THE VEH. IN MY OPINION I BELIEVE THE DRIVER WAS TRAVELING TO FAST TO MAKE THE SHARP CURVE. HE THEN TRIED TO CUT THE CURVE BY DRIVING IN THE NORTHBOUND LANE. HIS RIGHT FRONT TIRE LEFT THE ROAD, WHICH IS A STEAP DROP OFF, AND THIS CAUSED THE VEHICLE TO PULL TO HIS LEFT. HIS VEH. WENT COMPLETELY OFF THE ROAD AND WHEN HE TRIED TO GET BACK ON THE ROAD HE LOST CONTROL AND STARTED TO SLIDE BROADSIDE (COUNTER CLOCKWISE). THIS IS WHEN HIS VEH. TURNED ON HIS SIDE COMING TO A REST IN THE MIDDLE OF THE ROAD. HE ALSO STATED THAT HE WAS WEARING HIS SEATBELT BUT IT CAME UNBUCKLED DURING THE ACCIDENT. I DID FIND THAT THE SEATBELT WAS FULLY RETRACTED AND I ALSO FOUND A SPIDERWEB TYPE BRAKE IN THE WINDSHIELD INFRONT OF THE DRIVERS SIDE SEAT.

A LARGE AMOUNT OF DIESEL FUEL AND OIL SPILLED ONTO THE ROAD, SOIL AND IN A POND. THE HAZ-MAT SPILL WAS HANDLED BY OFFICER ERIC BURNHAM.

J. Elliott

#13

51204

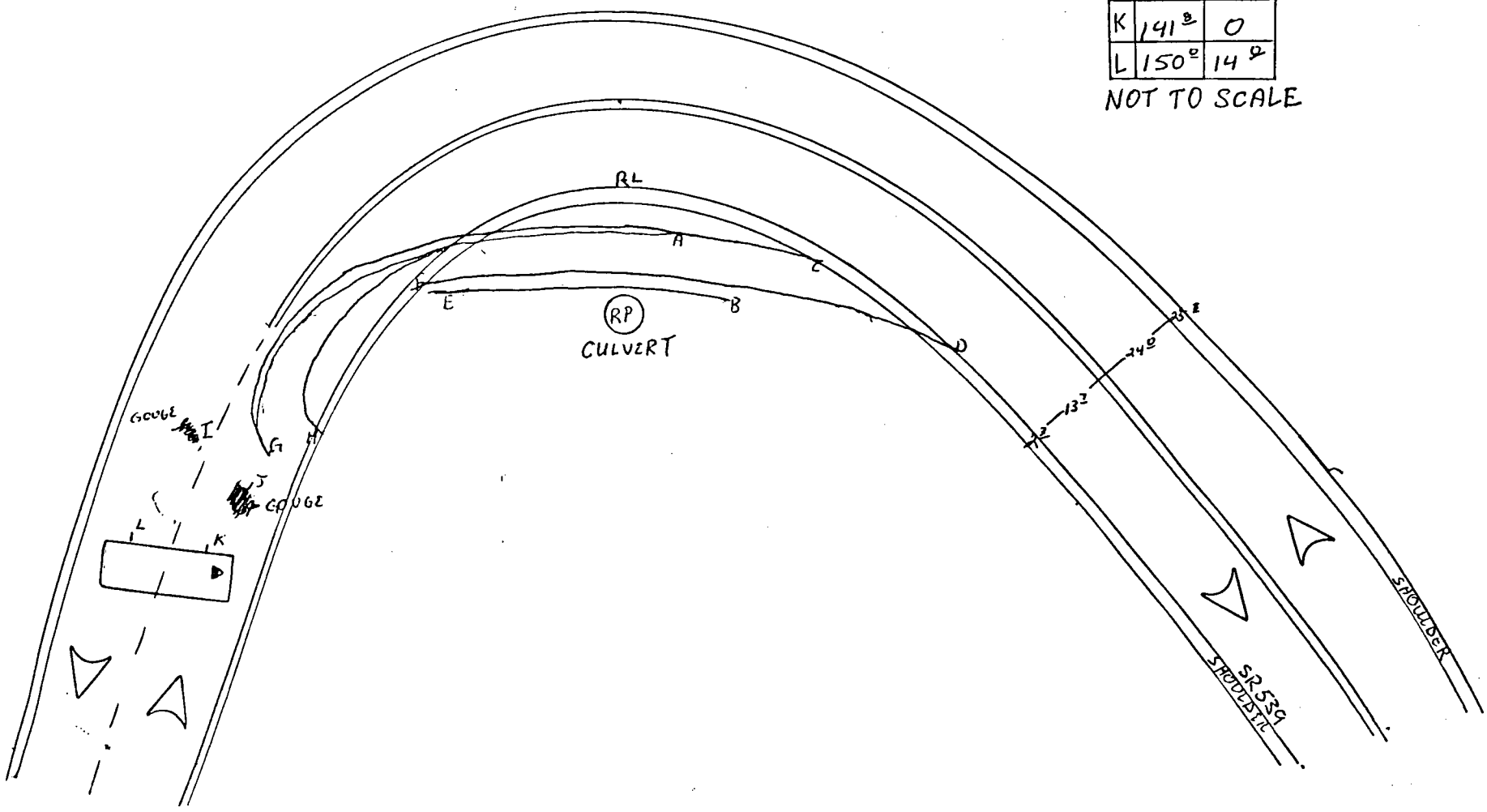
Date	Time	Location	County
10-27-98	1205	SR539 MP5	RIOARRIBA
Driver No. 1			Sheet
ROBERT GRIJALVA			3
Driver No. 2			Of
			3

STATE OF NEW MEXICO UNIFORM ACCIDENT REPORT

SUPPLEMENTAL DIAGRAM/NARRATIVE

	DP	DI
A	47°	2°
B	63°	6°
C	70°	1°
D	126°	0
E	11°	2°
F	24°	0
G	88°	5°
H	103°	2°
I	104°	14°
J	115°	6°
K	141°	0
L	150°	14°

NOT TO SCALE



ISSUING AGENCY COPY

SHTD-10075
REV. 7/90

MTD - 11191
INT. 08/93

STATE OF NEW MEXICO - MOTOR TRANSPORTATION DIVISION

Truck and Bus Supplemental Accident Report

UAR Accident Report # _____

Date _____

ONLY COMPLETE THIS FORM IF TWO CONDITIONS ARE MET

ACCIDENT MUST HAVE INVOLVED	AND AT LEAST ONE OF THE FOLLOWING OCCURRED:
Condition #1: ☒ A truck with at least 2 axles or 6 tires; and/or ☒ A vehicle with Hazmat placarding; or ☐ A bus with seats for more than 15 people (including driver).	Condition #2: ☐ Person(s) fatally injured. ☒ Injured person(s) taken from the scene for medical attention. ☒ Vehicle(s) towed from the scene.

ACCIDENT INFORMATION

Carrier Name: FOUR FOUR INC

Carrier Address: PO BOX 3860 FARMINGTON NM 87499

Source: ☒ Vehicle Side ☐ Shipping Papers ☐ Driver

Carrier ID #	US DOT #	ICC MC #	State Name	State #
	147703			

VEHICLE CONFIGURATION

- ☐ Bus
- ☒ Single unit truck, 2 axle, 6 tire
- ☒ Single unit truck, 3 or more axles
- ☐ Truck / Trailer
- ☐ Truck Tractor (bobtail)
- ☐ Tractor / Semitrailer
- ☐ Tractor / Doubles
- ☐ Unknown heavy truck

CARGO BODY TYPE

- ☐ Bus
- ☐ Van or Enclosed Box
- ☐ Cargo Tank
- ☒ Flatbed
- ☐ Dump
- ☐ Concrete Mixer
- ☐ Auto Transport
- ☐ Garbage or Refuse
- ☐ Unknown heavy truck

Gross Vehicle Weight Rating	Axles on Vehicle Including Trailer	Number of Injuries	Number of Fatalities
36000 lbs.	3	1	0

HAZMAT

Was Hazardous **Cargo** Released from the Vehicle?	From Placard, Indicate 4 Digit Placard Number	Indicate Name from Diamond or Box	Indicate Single Digit Number from Bottom of Diamond
☒ YES ☐ NO	1203	FLAMMABLE	3

SEQUENCE OF EVENTS

(1) 2 3 4	Ran Off the Road
1 2 3 4	Jackknifed
1 (2) 3 4	Overturned
1 2 3 4	Downhill Runaway
1 2 (3) 4	Cargo Lost or Shifted
1 2 3 4	Explosion or Fire
1 2 3 4	Separation of Units
1 2 3 4	Collision Involving Pedestrian
1 2 3 4	Collision Involving Vehicle in Transport
1 2 3 4	Collision Involving Parked Vehicle
1 2 3 4	Collision Involving Train
1 2 3 4	Collision Involving Pedalcycle
1 2 3 4	Collision Involving Animal
1 2 3 4	Collision Involving Fixed Object
1 2 3 4	Collision Involving Other Object
1 2 3 4	Other

TRAFFICWAY

- ☒ Not physically divided
- ☐ Divided highway, median strip, *no* traffic barrier
- ☐ Divided highway, median strip, *with* traffic barrier
- ☐ One way traffic

ACCESS CONTROL

- ☒ No control, unlimited access
- ☐ Full control, only ramp entry and exit

COMMENTS AND OTHER INFORMATION

New Mexico State Police
Hazardous Materials Response
Accident/Incident

Supplemental form

CONTINUATION OF: NARRATIVE HAZMAT NO. H 1998 1012

ON 10/27/98 I WAS CALLED TO A HAZARDOUS MATERIAL SPILL ON STATE ROAD 539 NEAR THE INTERSECTION OF STATE ROAD 511. A ONE VEHICLE ACCIDENT INVOLVING A SINGLE UNIT TRUCK ROLL OVER CAUSING ITS CARGO TO SPILL. THE DRIVER WAS TRANSPORTED FROM THE SCENE BY AMBULANCE DUE TO HIS INJURIES. OFFICER GUY ARCHULETA OF THE NEW MEXICO STATE POLICE COMPLETED THE ACCIDENT REPORT, COPY ATTACHED. ON MY ARRIVAL I THE AREA WAS BEING SECURED BY THE VOLUNTEER FIRE PERSONNEL AND THE FARMINGTON REGIONAL RESPONSE TEAM.

THE SPILL WAS IDENTIFIED AS APPROX. 900 GALLONS OF DIESEL THAT HAD SPILLED DUE TO THE ACCIDENT FROM A BOX TYPE TANK, 250 GALLONS OF WASTE OIL AND 3, 55 GALLON BARRELS OF ANTIFREEZE. THE PRODUCT COVERED THE ROADWAY AND HAD RUN ON TO BOTH SHOULDERS. ON THE EAST SHOULDER A NATURAL WATER POND HAD TRAPPED MOST OF THE DIESEL ALONG WITH STANDING NATURAL RAIN WATER. THE WEST SHOULDER WAS COVERED IN WASTE OIL AND THE PRODUCT HAD SETTLED INTO THE WASHES. THE AREA WAS THEN CLEARED AND THE FLOW WAS STOPPED BY DAMMING THE WASHES WITH DIRT. THE CARRIER THEN CONTACTED ON SITE TECHNOLOGIES TO COMPLETE CLEAN UP. DURING THIS TIME IT BEGAN TO RAIN AND A LARGE RUN OFF WAS FLOWING BOTH DOWN THE WASHES AND ROADS. TWO BACK HOES WERE BROUGHT IN BY THE CARRIER COMPANY AND UNDER THE DIRECTION OF THE FARMINGTON HAZ-MAT TEAM , AND ON SITE TECHNOLOGIES UNDER FLOW DAMS WERE CREATED TO CONTAIN THE SPILL AFTER BEING APPROVED BY THE HEAD QUARTERS E.R.O.. AFTER THE SPILL WAS CONTAINED THE PRODUCT HAD SPREAD OVER A LARGE AREA AND THE HIGHWAY DEPARTMENT WAS NOTIFIED THAT STATE ROAD 539 WOULD HAVE TO BE CLOSED UNTIL CLEAN UP COULD BE MADE.

ON SITE TECHNOLOGIES TOOK CONTROL OF THE CLEAN UP AND RESTORATION OF THE AREA UNDER PROJECT MANAGER CYNTHIA GRAY. THE STANDING RAIN WATER AND PRODUCT WAS REMOVED FROM THE RAIN POND TO AN APPROVED DUMPSITE, ALONG WITH THE CONTAMINATED SOIL. JIM MULLANY FROM THE NEW MEXICO ENVIRONMENTAL DEPARTMENT HANDLED THE TESTING AND RECLAMATION OF THE SITE TO ITS PRE ACCIDENT CONDITION. STATE ROAD 539 HAD TO BE CLOSED FOR TWO DAYS DUE TO THE SPILL AND THE AREA WAS RESTORED TO ITS PREVIOUS CONDITION AND OPENED BY THE HIGHWAY DEPARTMENT. NO PERSONNEL WERE CONTAMINATED AND THE SPILL WAS CONTAINED TO THE AREA. FARMINGTON HAZ-MAT TEAM ALSO COMPLETED A REPORT ON WHAT MATERIALS WERE USED BY THEM TO CONTROL THE SPILL. A COMPLETE REPORT OF THE CLEAN UP EFFORT WAS ALSO DONE BY ON SITE TECHNOLOGIES.

EB

555 11-6-98

P.O. Box 1980
Hobbs, NM 88241-1980
District II - (505) 748-1283
811 South First
Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Road
Aztec, NM 87410
District IV - (505) 827-7131

State of New Mexico
Energy Minerals and Natural Resources Department
Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

Form C-141
Originated 2/13/97

Submit 2 copies to Appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☐ Final Report

Name	Contact
Four-Four Inc.	Mike Hall
Address	**Telephone No.**
3000 Bloomfield Hwy. Farmington, NM 87401	505-327-2711
Facility Name	**Facility Type**
N/A	N/A

Surface Owner	Mineral Owner	Lease No.
BLM/BOR	BLM/BOR	N/A

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
H	24	29N	8W	N/A	N/A	N/A	N/A	San Juan

NATURE OF RELEASE

Type of Release	Volume of Release	Volume Recovered
Diesel, New and Used Oil	approx. 800 gallons	approx. 760 gallons
Source of Release	**Date and Hour of Occurrence**	**Date and Hour of Discovery**
Field Service Vehicle Overturned	10/27/98 1314	10/27/98 1314
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	**If YES, To Whom?** District II Office	
By Whom? Cindy Gray	**Date and Hour** Unknown	
Was a Watercourse Reached? ☒ Yes ☐ No	**If YES, Volume Impacting the Watercourse.** 800 gallons	

If a Watercourse was Impacted, Describe Fully. (Attach Additional Sheets If Necessary)

See attached sheets

Describe Cause of Problem and Remedial Action Taken. (Attach Additional Sheets If Necessary)

See attached sheets

Describe Area Affected and Cleanup Action Taken. (Attach Additional Sheets If Necessary)

See attached sheets

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: Mike Hall	**OIL CONSERVATION DIVISION**
Printed Name: Mike Hall	Approved by District Supervisor:
Title: General Office Manager	Approval Date: / Expiration Date:
Date: 11/17/98 Phone: (505) 327-2711	Conditions of Approval: / Attached ☐

CERTIFICATE OF WASTE STATUS

1. Generator Name and Address:	2. Destination Name:
Four-Four Inc. 3000 East Bloomfield Highway Farmington, NM 87401	Sonco Disposal County Road 3500 Aztec, NM 87410
3. Originating Site (name):	**Location of the Waste (Street address &/or ULSTR):**
½ mile south of the Navajo Dam State Route 539 Attach list of originating sites as appropriate	M&R Trucking 400 Sandstone Ave. Farmington, NM 87401
4. Source and Description of Waste	
Hydrocarbon contaminated water Caused from runoff from an overturned field service truck.	

I, Mike Hall representative for:

Foue-Four Inc. do hereby certify that, according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1998, regulatory determination, the above-described waste is: (Check appropriate classification)

_____ **EXEMPT** oilfield waste

__X__ **NON-EXEMPT** oilfield waste which is non-hazardous by characteristic analysis or by product identification

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For **NON-EXEMPT** waste only the following documentation is attached (check appropriate items):

_____ MSDS Information

_____ RCRA Hazardous Waste Analysis

_____ Chain of Custody

X Other (description): Preliminary Laboratory Results

Name (Original Signature): Mike Hall

Title: General Office Manager

Date: 11-11-98

CERTIFICATE OF WASTE STATUS

1. Generator Name and Address:	2. Destination Name:
Four-Four Inc. 3000 East Bloomfield Highway Farmington, NM 87401	Tierra Environmental Co. Inc. 420 County Road 3100 Aztec, NM 87410
3. Originating Site (name):	**Location of the Waste (Street address &/or ULSTR):**
½ mile south of the Navajo Dam State Route 539 Attach list of originating sites as appropriate	Tierra Environmental Co. Inc. 420 County Road 3100 Aztec, NM 87410
4. Source and Description of Waste	
Hydrocarbon contaminated soil from an overturned field service truck.	

I, Mike Hall representative for:

Four-Four Inc. do hereby certify that, according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1998, regulatory determination, the above-described waste is: (Check appropriate classification)

_____ **EXEMPT** oilfield waste

X **NON-EXEMPT** oilfield waste which is non-hazardous by characteristic analysis or by product identification

and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.

For **NON-EXEMPT** waste only the following documentation is attached (check appropriate items):

_____ MSDS Information

_____ RCRA Hazardous Waste Analysis

_____ Chain of Custody

X Other (description): Laboratory Results

Name (Original Signature): Mike Hall

Title: General Manager

Date: 11/23/98

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *20-Nov-98*

Client:	On Site Technologies, Limited Partnership	**Client Sample Info:**	Four-Four
Work Order:	9810083	**Client Sample ID:**	Delusso Loop Spill Water
Lab ID:	9810083-01A **Matrix:** AQUEOUS	**Collection Date:**	10/28/98 11:00:00 AM
Project:	4-1532	**COC Record:**	5585

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		**SW8020A**				Analyst: **DC**
Toluene	790	10		µg/L	10	11/4/98
m,p-Xylene	1100	20		µg/L	10	11/4/98
o-Xylene	340	10		µg/L	10	11/4/98
BTEX		**SW8020A**				Analyst: **HR**
Benzene	170	1		µg/L	1	11/3/98
Ethylbenzene	98	1		µg/L	1	11/3/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *20-Nov-98*

Client:	On Site Technologies, Limited Partnership	**Client Sample Info:**	Four-Four
Work Order:	9810083	**Client Sample ID:**	Delusso Loop Spill Water
Lab ID:	9810083-01B **Matrix:** AQUEOUS	**Collection Date:**	10/28/98 11:00:00 AM
Project:	4-1532	**COC Record:**	5585

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
TPH, WATER		**E418.1**				Analyst: **HR**
Petroleum Hydrocarbons, T/R	14	5		mg/L	1	11/2/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *20-Nov-98*

Client:	On Site Technologies, Limited Partnership	**Client Sample Info:**	Four-Four
Work Order:	9810083	**Client Sample ID:**	Trip Blank
Lab ID:	9810083-02A **Matrix:** AQUEOUS	**Collection Date:**	10/28/98 10:50:00 AM
Project:	4-1532	**COC Record:**	5585

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		**SW8020A**				Analyst: **HR**
Benzene	ND	1		µg/L	1	11/3/98
Toluene	ND	1		µg/L	1	11/3/98
Ethylbenzene	ND	1		µg/L	1	11/3/98
m,p-Xylene	ND	2		µg/L	1	11/3/98
o-Xylene	ND	1		µg/L	1	11/3/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

Mountain States Analytical, Inc.

November 10, 1998

Mr. David Cox
On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Reference:
Project: Metals Analysis
MSAI Group: 24665

Dear Mr. Cox:

Enclosed are the analytical results for your project referenced above. The following sample is included in the report.

9810083-01C

All holding times were met for the tests performed on these samples.

Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

Rolf E. Larsen
Project Manager

Analytical Report

Mountain States Analytical, Inc.
The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Metals Analysis

MSAI Sample: 88896
MSAI Group: 24665
Date Reported: 11/10/98
Discard Date: 12/10/98
Date Submitted: 10/29/98
Date Sampled: 10/28/98
Collected by:
Purchase Order:
Project No.:

Sample ID: 9810083-01C Four-Four
Matrix: Waste Water
Delusso Loop Spill Water

Test	Analysis	Results as Received	Units		Limit of Quantitation
03921	Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Complete		(*)	
0407	Mercury Prep CVAA, ww, 7470A Method: SW-846 7470A	Complete		(*)	
13001	Metals by ICP, 6010A, w/ww Method: SW-846 6010A				
	Arsenic	< 0.1	mg/l	(*)	0.1
	Barium	8.65	mg/l	(*)	0.015
	Cadmium	< 0.05	mg/l	(*)	0.05
	Chromium	0.085	mg/l	(*)	0.050
	Lead	< 0.1	mg/l	(*)	0.1
	Selenium	< 0.1	mg/l	(*)	0.1
	Silver	< 0.05	mg/l	(*)	0.05
1521	Mercury by CVAA, w/ww, 7470A Method: SW-846 7470A	< 0.00050	mg/l	(*)	0.00050

(*) This analysis was subcontracted to another qualified laboratory.

Mountain States Analytical, Inc.
The Quality Solution

On Site Technologies, Ltd.

MSAI Sample: 88896
MSAI Group: 24665

Sample ID: 9810083-01C

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

Corporate Office: 1645 West 2200 South • Salt Lake City, Utah 84119
801-973-0050 • 1-800-973-6724 (MSAI) • FAX 801-972-6278
e-mail: service@msailabs.com

On Site Technologies, LTD.

Date: *20-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810083
Project: 4-1532

QC SUMMARY REPORT

Method Blank

Sample ID: **MB-54** Batch ID: **54** Test Code: **E413.2** Units: **mg/L** Analysis Date **11/2/98** Prep Date: **10/30/98**
Client ID: **9810083** Run ID: **TPH 1_981102A** SeqNo: **8253**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease, Total Recoverable	ND	1									

Sample ID: **MB-54** Batch ID: **54** Test Code: **E418.1** Units: **mg/L** Analysis Date **11/2/98** Prep Date: **10/30/98**
Client ID: **9810083** Run ID: **TPH 1_981102B** SeqNo: **8401**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, T/R	ND	5									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *20-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810083
Project: 4-1532

QC SUMMARY REPORT
Sample Duplicate

Sample ID: **9810085-10BD** Batch ID: **54** Test Code: **E413.2** Units: **mg/L** Analysis Date **11/2/98** Prep Date: **10/30/98**
Client ID: **9810083** Run ID: **TPH 1_981102A** SeqNo: **8262**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease, Total Recoverable	63	10	0	0	0.0%	0	0	24.62	87.6%	15	R

11/20/98
11/20/98

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *20-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810083
Project: 4-1532

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: **LCS-54** Batch ID: **54** Test Code: **E413.2** Units: **mg/L** Analysis Date **11/2/98** Prep Date: **10/30/98**
Client ID: **9810083** Run ID: **TPH 1_981102A** SeqNo: **8255**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease, Total Recoverable	7.65	1	8.3	0	92.2%	80	120				

Sample ID: **LCS-54** Batch ID: **54** Test Code: **E418.1** Units: **mg/L** Analysis Date **11/2/98** Prep Date: **10/30/98**
Client ID: **9810083** Run ID: **TPH 1_981102B** SeqNo: **8403**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, T/R	7.65	5	8.3	0	92.2%	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *20-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810083
Project: 4-1532

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: **CCV1** Batch ID: **54** Test Code: **E413.2** Units: **mg/L** Analysis Date **11/2/98** Prep Date:
Client ID: **9810083** Run ID: **TPH 1_981102A** SeqNo: **8254**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease, Total Recoverable	128	20	124	0	103.2%	80	120				

Sample ID: **CCV1** Batch ID: **54** Test Code: **E418.1** Units: **mg/L** Analysis Date **11/2/98** Prep Date:
Client ID: **9810083** Run ID: **TPH 1_981102B** SeqNo: **8402**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, T/R	128	5	124	0	103.2%	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *20-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810083
Project: 4-1532

QC SUMMARY REPORT

Method Blank

Sample ID: **MB1** Batch ID: **GC-1_981103** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/3/98** Prep Date:
Client ID: **9810083** Run ID: **GC-1_981103B** SeqNo: **8447**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.1591	1									J
Ethylbenzene	.2016	1									J
m,p-Xylene	.4253	2									J
Methyl tert-Butyl Ether	ND	1									
o-Xylene	.2751	1									J
Toluene	.41	1									J

Sample ID: **MB1** Batch ID: **GC-1_981104** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/4/98** Prep Date:
Client ID: **9810083** Run ID: **GC-1_981104A** SeqNo: **8462**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1									
Ethylbenzene	ND	1									
m,p-Xylene	.1915	2									J
Methyl tert-Butyl Ether	ND	1									
o-Xylene	ND	1									
Toluene	.1132	1									J

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *20-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810083
Project: 4-1532

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: **9811008-01AMS** Batch ID: **GC-1_981103** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/3/98** Prep Date:
Client ID: **9810083** Run ID: **GC-1_981103B** SeqNo: **8448**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	218.4	5	200	27.71	95.3%	56	128				
Ethylbenzene	264.2	5	200	74.98	94.6%	78	107				
m,p-Xylene	387.1	10	400	4.079	95.7%	67	118				
Methyl tert-Butyl Ether	209.9	5	200	9.908	100.0%	70	130				
o-Xylene	203	5	200	5.099	98.9%	78	107				
Toluene	205.9	5	200	12.09	96.9%	74	116				

Sample ID: **9811008-01AMSD** Batch ID: **GC-1_981103** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/3/98** Prep Date:
Client ID: **9810083** Run ID: **GC-1_981103B** SeqNo: **8449**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	217.5	5	200	27.71	94.9%	56	128	218.4	0.4%	12	
Ethylbenzene	259.4	5	200	74.98	92.2%	78	107	264.2	1.8%	11	
m,p-Xylene	380.5	10	400	4.079	94.1%	67	118	387.1	1.7%	10	
Methyl tert-Butyl Ether	209.9	5	200	9.908	100.0%	70	130	209.9	0.0%	15	
o-Xylene	200.3	5	200	5.099	97.6%	78	107	203	1.3%	14	
Toluene	200.2	5	200	12.09	94.1%	74	116	205.9	2.8%	14	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810083
Project: 4-1532

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **9810083-01AMS** Batch ID: **GC-1_981104** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/4/98** Prep Date:
Client ID: **Delusso Loop Spil** **9810083** Run ID: **GC-1_981104A** SeqNo: **8463**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	557.3	10	400	174.9	95.6%	56	128				
Ethylbenzene	495.2	10	400	103.2	98.0%	78	107				
m,p-Xylene	1867	20	800	1118	93.6%	67	118				
Methyl tert-Butyl Ether	414	10	400	2.82	102.8%	70	130				
o-Xylene	744.5	10	400	345.3	99.8%	78	107				
Toluene	1168	10	400	794.7	93.3%	74	116				

Sample ID: **9810083-01AMSD** Batch ID: **GC-1_981104** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/4/98** Prep Date:
Client ID: **Delusso Loop Spil** **9810083** Run ID: **GC-1_981104A** SeqNo: **8464**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	540.5	10	400	174.9	91.4%	56	128	557.3	3.1%	12	
Ethylbenzene	480	10	400	103.2	94.2%	78	107	495.2	3.1%	11	
m,p-Xylene	1809	20	800	1118	86.4%	67	118	1867	3.1%	10	
Methyl tert-Butyl Ether	409.9	10	400	2.82	101.8%	70	130	414	1.0%	15	
o-Xylene	726	10	400	345.3	95.2%	78	107	744.5	2.5%	14	
Toluene	1132	10	400	794.7	84.4%	74	116	1168	3.1%	14	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *20-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810083
Project: 4-1532

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: **LCS WATER** Batch ID: **GC-1_981103** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/3/98** Prep Date:

Client ID: **9810083** Run ID: **GC-1_981103B** SeqNo: **8446**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	37.98	1	40	0.1591	94.6%	56	128				
Ethylbenzene	38.3	1	40	0.2016	95.3%	78	107				
m,p-Xylene	75.65	2	80	0.4253	94.0%	67	118				
Methyl tert-Butyl Ether	39.24	1	40	0	98.1%	70	130				
o-Xylene	38.88	1	40	0.2751	96.5%	78	107				
Toluene	38.34	1	40	0.41	94.8%	74	116				

Sample ID: **LCS WATER** Batch ID: **GC-1_981104** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/4/98** Prep Date:

Client ID: **9810083** Run ID: **GC-1_981104A** SeqNo: **8461**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	39.08	1	40	0	97.7%	56	128				
Ethylbenzene	39.35	1	40	0	98.4%	78	107				
m,p-Xylene	77.64	2	80	0.1915	96.8%	67	118				
Methyl tert-Butyl Ether	39.46	1	40	0	98.6%	70	130				
o-Xylene	39.78	1	40	0	99.5%	78	107				
Toluene	39.28	1	40	0.1132	97.9%	74	116				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *20-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810083
Project: 4-1532

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: **CCV1 QC0606/07** Batch ID: **GC-1_981103** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/3/98** Prep Date:
Client ID: **9810083** Run ID: **GC-1_981103B** SeqNo: **8443**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20	1	20	0	100.0%	85	115				
Ethylbenzene	20.25	1	20	0	101.3%	85	115				
m,p-Xylene	40	2	40	0	100.0%	85	115				
Methyl tert-Butyl Ether	20.28	1	20	0	101.4%	85	115				
o-Xylene	20.51	1	20	0	102.6%	85	115				
Toluene	20.37	1	20	0	101.9%	85	115				
1,4-Difluorobenzene	89.67	0	100	0	89.7%	70	130				
4-Bromochlorobenzene	101.4	0	100	0	101.4%	70	130				
Fluorobenzene	87.8	0	100	0	87.8%	70	130				

Sample ID: **CCV2 QC0606/07** Batch ID: **GC-1_981103** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/3/98** Prep Date:
Client ID: **9810083** Run ID: **GC-1_981103B** SeqNo: **8444**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.51	1	20	0	97.6%	85	115				
Ethylbenzene	19.82	1	20	0	99.1%	85	115				
m,p-Xylene	38.91	2	40	0	97.3%	85	115				
Methyl tert-Butyl Ether	20.31	1	20	0	101.6%	85	115				
o-Xylene	20.2	1	20	0	101.0%	85	115				
Toluene	19.88	1	20	0	99.4%	85	115				
1,4-Difluorobenzene	89.84	0	100	0	89.8%	70	130				
4-Bromochlorobenzene	102.3	0	100	0	102.3%	70	130				
Fluorobenzene	87.66	0	100	0	87.7%	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810083
Project: 4-1532

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: **CCV3 QC0606/07** Batch ID: **GC-1_981103** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/3/98** Prep Date:
Client ID: **9810083** Run ID: **GC-1_981103B** SeqNo: **8445**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	39.32	1	40	0	98.3%	85	115				
Ethylbenzene	39.46	1	40	0	98.6%	85	115				
m,p-Xylene	77.48	2	80	0	96.9%	85	115				
Methyl tert-Butyl Ether	38.93	1	40	0	97.3%	85	115				
o-Xylene	39.8	1	40	0	99.5%	85	115				
Toluene	39.51	1	40	0	98.8%	85	115				
1,4-Difluorobenzene	89.53	0	100	0	89.5%	70	130				
4-Bromochlorobenzene	112.5	0	100	0	112.5%	70	130				
Fluorobenzene	87.47	0	100	0	87.5%	70	130				

Sample ID: **CCV1 QC0606/07** Batch ID: **GC-1_981104** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/4/98** Prep Date:
Client ID: **9810083** Run ID: **GC-1_981104A** SeqNo: **8459**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.15	1	20	0	105.7%	85	115				
Ethylbenzene	21.33	1	20	0	106.7%	85	115				
m,p-Xylene	42	2	40	0	105.0%	85	115				
Methyl tert-Butyl Ether	20.99	1	20	0	105.0%	85	115				
o-Xylene	21.54	1	20	0	107.7%	85	115				
Toluene	21.27	1	20	0	106.3%	85	115				
1,4-Difluorobenzene	89.74	0	100	0	89.7%	70	130				
4-Bromochlorobenzene	102.7	0	100	0	102.7%	70	130				
Fluorobenzene	87.6	0	100	0	87.6%	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810083
Project: 4-1532

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: **CCV2 QC0606/07** Batch ID: **GC-1_981104** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/4/98** Prep Date:
Client ID: **9810083** Run ID: **GC-1_981104A** SeqNo: **8460**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.8	1	20	0	104.0%	85	115				
Ethylbenzene	20.93	1	20	0	104.6%	85	115				
m,p-Xylene	41.08	2	40	0	102.7%	85	115				
Methyl tert-Butyl Ether	21.31	1	20	0	106.5%	85	115				
o-Xylene	21.31	1	20	0	106.6%	85	115				
Toluene	20.99	1	20	0	105.0%	85	115				
1,4-Difluorobenzene	89.25	0	100	0	89.2%	70	130				
4-Bromochlorobenzene	102.4	0	100	0	102.4%	70	130				
Fluorobenzene	87.7	0	100	0	87.7%	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Nov-98

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810083
Project: 4-1532
Test No: SW8020A

QC SUMMARY REPORT
SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ
9810079-01A	90	104	87.9
9810083-01A	90.1	103	88.1
9810083-01AMS	90.2	103	87.8
9810083-01AMSD	89.9	103	87.6
9810083-02A	89.7	102	88
9810094-01A	90	102	88
9810094-02A	89.8	103	87.9
9811008-01A	89.1	99.6	96.9
9811008-01AMS	86.6	101	89
9811008-01AMSD	90.2	101	90.4
9811008-02A	89.4	101	88
9811008-03A	89.6	102	88
9811008-04A	86.6	98.4	88.6
9811008-05A	89.7	102	87.4
9811008-06A	84.7	101	98.2
9811008-07A	89.2	101	87.8
9811008-08A	89.5	102	87.8
9811008-09A	90.1	102	88.4
9811008-10A	89.6	103	87.9
9811008-11A	90	102	87.7
9811008-12A	89.9	101	87.6
9811011-01A	90	102	87.6
9811011-02A	89.6	103	87.8
9811011-03A	89.5	102	87
9811012-01A	82.6	97.4	82.6
9811012-02A	82.4	96.4	82
9811013-01A	88	102	85.6

Acronym		Surrogate	QC Limits
14FBZ	=	1,4-Difluorobenzene	70-130
4BCBZ	=	4-Bromochlorobenzene	70-130
FLBZ	=	Fluorobenzene	70-130

*** Surrogate recovery outside acceptance limits**

1

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810083
Project: 4-1532
Test No: SW8020A

QC SUMMARY REPORT
SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9811014-01A	89.7	104	88					
9811014-02A	89.8	104	88					
CCV1 QC0606/07	89.7	103	87.6					
CCV2 QC0606/07	89.2	102	87.7					
CCV3 QC0606/07	89.5	112	87.5					
LCS WATER	89	102	87.6					
MB1	90.2	103	88					

Acronym		Surrogate	QC Limits
14FBZ	=	1,4-Difluorobenzene	70-130
4BCBZ	=	4-Bromochlorobenzene	70-130
FLBZ	=	Fluorobenzene	70-130

*** Surrogate recovery outside acceptance limits**

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

November 20, 1998

Cindy Gray
On Site Technologies, Limited Partnership
612 E. Murray Drive
P.O. Box 2606
Farmington, NM 87499
TEL: (505) 325-5667
FAX (505) 327-1496

RE: 4-1532 Order No.: 9810083

Dear Cindy Gray,

On Site Technologies, LTD. received 2 samples on 10/28/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:

AQPREP TOTAL METALS: ICP (SW3010A)
BTEX (SW8020A)
ICP METALS-RCRA, Total (SW6010A)
TPH, Water (E418.1)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

David Cox

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

On Site Technologies, LTD. **Date:** *20-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Project: 4-1532
Lab Order: 9810083

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

P.O. BOX 2606 • FARMINGTON, NM 87499

Western Analysis, Inc.
2417 South 2700 West
Salt Lake City, Utah 84119
(801) 973-9238 • FAX (801) 973-7635

REPORT OF ANALYSIS

Mountain States Analytical
Attn: Rolf Larsen
1645 West 2200 South
Salt Lake City, Utah 84119

November 4, 1998
Project # 98-896
PO # 15351

Requested Analysis:

1. UTS metals (7 RCRA) {EPA 600/200.7}
2. Mercury {EPA 600/245.1}

Sample ID: 24665-88896
Date Received: October 29, 1998
Date Analyzed: November 3, 1998

ANALYTE	UNITS	24665-88896 Lab # 67930
Arsenic	mg/l	< 0.1
Barium	mg/l	8.65
Cadmium	mg/l	< 0.05
3001 Chromium	mg/l	0.085
Lead	mg/l	< 0.1
Silver	mg/l	< 0.05
Selenium	mg/l	< 0.1
1521 Mercury	µg/l	< 0.5

Kyle Schuck, General Manager

-7

On Site Technologies, LTD.
612 E. Murray Drive
Farmington, NM 87401
(505) 325-2432

CHAIN-OF-CUSTODY RECORD

Subcontractor:

Mountain States Analytical, Inc.
1645 West 2200 South

Salt Lake City, UT 84119

TEL: (800) 973-6724
FAX: (801) 972-6278

Acct #:

30-Oct-98

Sample ID	Matrix	Collection Date	Bottle Type	Requested Tests						
				SW3010A	SW6010A					
9810083-01C	Aqueous	10/28/98 11:00:00 AM	500HDPEHNO3	1	1					

Comments: Please analyze one (1) sample for RCRA Metals, Total

	Date/Time		Date/Time
Relinquished by:	10/29/98 1630	**Received by:**	
Relinquished by:		**Received by:**	

Mountain States Analytical, Inc.
The Quality Solution

Western

15351

Sample Chain of Custody

Client Name Mountain States Sampler

Phone # 973-0050 Fax # 972-6278

Project Name / # Sub - metals

P.O. #

Sample Identification	Date Collected	Time Collected	Grab	Composite	Solid	Water	Oil	Specify:	Total of Containers	Analysis Required: 7 RCRA - ICP	Analysis Required: Hg - CVAA	Remarks
24665-28896	10/26/98	11:00				1			1	X	X	5 day TAT

Sample relinquished by:	Date	Time	Sample received by:	Name of Shipper	Airbill No.	Date	Time
				Received by (Lab)	Date	Time	Seal Intact?

Turnaround Time Requested (please circle): Normal Rush
(Rush TAT is subject to MSAI approval and surcharge)
Report Results by: (Date)
Rush results requested by (please circle): Phone Fax
Report Results to:

Sample Receiving Comments:

MSAI USE ONLY:

Cooler ID:
Cooler Temp:
Therm. ID:
Wet Ice / Blue Ice / None

Hand Delivered:
MSAI Courier:
Shipped:

Arrived in Shipping Container: Y / N
Sealed: Y / N / NA

COC Seals on Container:
PRESENT
Intact
Broken
NOT PRESENT

Samples:
COC & Labels Match?
YES
NO

Broken / Leaking?
YES
NO

VOAs w/o headspace?
YES
NO

Preservative pH:
HNO_3:
H_2SO_4:
NaOH:
NaOH/ZnAC:

Correct Containers used?
YES
NO

Sufficient Quantity?
YES
NO

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

White Copy - Original Retain by Lab Yellow Copy - Return to Customer Pink Copy - Retain by Sampler

10 Years of Quality Service

CHAIN OF CUSTODY RECORD

5585

ON SITE TECHNOLOGIES, LTD.

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Date: [illegible]

Page 1 of 1

Purchase Order No.:	Job No. [illegible]-1532

SEND INVOICE TO

Name	[illegible]
Company	[illegible]
Dept.	
Address	
City, State, Zip	

REPORT RESULTS TO

Name	[illegible]
Title	
Company	[illegible]
Mailing Address	
City, State, Zip	
Telephone No.	
Telefax No.	

Sampling Location: [illegible]

Sampler: [illegible]

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	[illegible]	[illegible]	[illegible]							LAB ID
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]							[illegible]-01
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2		[illegible]								[illegible]-02

Relinquished by: [illegible]	Date/Time [illegible]	Received by: [illegible]	Date/Time [illegible]
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

Rush | 24-48 Hours | 10 Working Days | Special Instructions:

Authorized by: ______________________ Date ________
(Client Signature Must Accompany Request)

Distribution: White – On Site Yellow – LAB Pink – Sampler Goldenrod – Client

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *11-Nov-98*

Client:	On Site Technologies, Limited Partnership	**Client Sample Info:**	Delusso Loop Spill
Work Order:	9810085	**Client Sample ID:**	Sample #1
Lab ID:	9810085-01A **Matrix:** SOIL	**Collection Date:**	10/28/98 10:01:00 AM
Project:	4-1532	**COC Record:**	5587

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		**SW8015**				Analyst: **HR**
T/R Hydrocarbons: C10-C28	ND	50		mg/Kg	2	11/10/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *11-Nov-98*

Client:	On Site Technologies, Limited Partnership	**Client Sample Info:**	Delusso Loop Spill
Work Order:	9810085	**Client Sample ID:**	Sample #2
Lab ID:	9810085-02A **Matrix:** SOIL	**Collection Date:**	10/28/98 11:12:00 AM
Project:	4-1532	**COC Record:**	5587

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		**SW8015**				Analyst: **HR**
T/R Hydrocarbons: C10-C28	780	25		mg/Kg	1	11/10/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *11-Nov-98*

Client:	On Site Technologies, Limited Partnership	**Client Sample Info:**	Delusso Loop Spill
Work Order:	9810085	**Client Sample ID:**	Sample #3
Lab ID:	9810085-03A **Matrix:** SOIL	**Collection Date:**	10/28/98 11:17:00 AM
Project:	4-1532	**COC Record:**	5587

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		**SW8015**				Analyst: **HR**
T/R Hydrocarbons: C10-C28	1400	25		mg/Kg	1	11/10/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *11-Nov-98*

Client:	On Site Technologies, Limited Partnership	**Client Sample Info:**	Delusso Loop Spill
Work Order:	9810085	**Client Sample ID:**	Sample #6
Lab ID:	9810085-04A **Matrix:** SOIL	**Collection Date:**	10/28/98 11:20:00 AM
Project:	4-1532	**COC Record:**	5587

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		**SW8015**				Analyst: **HR**
T/R Hydrocarbons: C10-C28	1100	25		mg/Kg	1	11/10/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *11-Nov-98*

Client:	On Site Technologies, Limited Partnership	**Client Sample Info:**	Delusso Loop Spill
Work Order:	9810085	**Client Sample ID:**	Sample #7
Lab ID:	9810085-05A **Matrix:** SOIL	**Collection Date:**	10/28/98 12:04:00 PM
Project:	4-1532	**COC Record:**	5587

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		**SW8015**				Analyst: **HR**
T/R Hydrocarbons: C10-C28	ND	25		mg/Kg	1	11/10/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *11-Nov-98*

Client:	On Site Technologies, Limited Partnership	**Client Sample Info:**	Delusso Loop Spill
Work Order:	9810085	**Client Sample ID:**	Sample #13
Lab ID:	9810085-06A **Matrix:** SOIL	**Collection Date:**	10/28/98 1:42:00 PM
Project:	4-1532	**COC Record:**	5587

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		**SW8015**				Analyst: **HR**
T/R Hydrocarbons: C10-C28	ND	25		mg/Kg	1	11/10/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *11-Nov-98*

Client:	On Site Technologies, Limited Partnership	**Client Sample Info:**	Delusso Loop Spill
Work Order:	9810085	**Client Sample ID:**	Sample #15
Lab ID:	9810085-07A **Matrix:** SOIL	**Collection Date:**	10/28/98 2:24:00 PM
Project:	4-1532	**COC Record:**	5587

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		**SW8015**				Analyst: **HR**
T/R Hydrocarbons: C10-C28	26	25		mg/Kg	1	11/10/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *11-Nov-98*

Client:	On Site Technologies, Limited Partnership	**Client Sample Info:**	Delusso Loop Spill
Work Order:	9810085	**Client Sample ID:**	Sample #17
Lab ID:	9810085-08A **Matrix:** SOIL	**Collection Date:**	10/28/98 2:26:00 PM
Project:	4-1532	**COC Record:**	5587

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		**SW8015**				Analyst: **HR**
T/R Hydrocarbons: C10-C28	9400	120		mg/Kg	5	11/10/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *11-Nov-98*

Client:	On Site Technologies, Limited Partnership	**Client Sample Info:**	Delusso Loop Spill
Work Order:	9810085	**Client Sample ID:**	Sample #19
Lab ID:	9810085-09A **Matrix:** SOIL	**Collection Date:**	10/28/98 2:28:00 PM
Project:	4-1532	**COC Record:**	5587

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		**SW8015**				Analyst: **HR**
T/R Hydrocarbons: C10-C28	860	25		mg/Kg	1	11/10/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *11-Nov-98*

Client:	On Site Technologies, Limited Partnership	**Client Sample Info:**	Delusso Loop Spill
Work Order:	9810085	**Client Sample ID:**	Water Sample
Lab ID:	9810085-10A **Matrix:** AQUEOUS	**Collection Date:**	10/28/98 10:18:00 AM
Project:	4-1532	**COC Record:**	5587

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		**SW8020A**				Analyst: **DC**
Benzene	ND	1		µg/L	1	11/5/98
Toluene	6.4	1		µg/L	1	11/5/98
Ethylbenzene	6.6	1		µg/L	1	11/5/98
m,p-Xylene	51	2		µg/L	1	11/5/98
o-Xylene	32	1		µg/L	1	11/5/98
VOLATILE AROMATIC ORGANICS		**SW8021**				Analyst: **DC**
Napthalene	120	1		µg/L	1	11/5/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *11-Nov-98*

Client:	On Site Technologies, Limited Partnership	**Client Sample Info:**	Delusso Loop Spill
Work Order:	9810085	**Client Sample ID:**	Water Sample
Lab ID:	9810085-10B **Matrix:** AQUEOUS	**Collection Date:**	10/28/98 10:18:00 AM
Project:	4-1532	**COC Record:**	5587

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
OIL AND GREASE, T/R		**E413.2**				Analyst: **HR**
Oil & Grease, Total Recoverable	25	10		mg/L	10	11/2/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

November 11, 1998

Larry Trujillo
On Site Technologies, Limited Partnership
612 E. Murray Drive
P.O. Box 2606
Farmington, NM 87499
TEL: (505) 325-5667
FAX (505) 327-1496

RE: 4-1532 Order No.: 9810085

Dear Larry Trujillo,

On Site Technologies, LTD. received 10 samples on 10/29/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:

BTEX (SW8020A)
Diesel Range Organics (SW8015)
OIL and GREASE, T/R (E413.2)
Volatile Aromatic Organics (SW8021)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

David Cox

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

On Site Technologies, LTD.

Date: *11-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Project: 4-1532
Lab Order: 9810085

CASE NARRATIVE

Analytical Comments for METHOD 413_W, SAMPLE 9810085-10BD: Suspected discrepany between duplicate samples, RPD = 87.6%, due to dissimilar samples submitted. Analyst observed that one sample, Total Oil & Grease = 63mg/L, had sheen (oil), on top of water and the other sample, Total Oil & Grease = 25mg/L, had no sheen. Discussed discrepancy with sampler, Larry Trujillo, who stated that sample with sheen could have more surface water. Per Larry Trujillo the value of 25mg/L is to be reported for Total Oil & Grease as this sample is more representative of site. Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

P.O. BOX 2606 • FARMINGTON, NM 87499

On Site Technologies, LTD.

Date: *11-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810085
Project: 4-1532

QC SUMMARY REPORT
Method Blank

Sample ID: **MB-54** Batch ID: **54** Test Code: **E413.2** Units: **mg/L** Analysis Date **11/2/98** Prep Date: **10/30/98**
Client ID: **9810085** Run ID: **TPH 1_981102A** SeqNo: **8253**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease, Total Recoverable	ND	1									

Sample ID: **MB-54** Batch ID: **54** Test Code: **E418.1** Units: **mg/L** Analysis Date **11/2/98** Prep Date: **10/30/98**
Client ID: **9810085** Run ID: **TPH 1_981102B** SeqNo: **8401**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, T/R	ND	5									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *11-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810085
Project: 4-1532

QC SUMMARY REPORT

Sample Duplicate

Sample ID: **9810085-10BD** Batch ID: **54** Test Code: **E413.2** Units: **mg/L** Analysis Date **11/2/98** Prep Date: **10/30/98**

Client ID: **Water Sample** **9810085** Run ID: **TPH 1_981102A** SeqNo: **8262**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease, Total Recoverable	63	10	0	0	0.0%	0	0	24.62	87.6%	15	R

11/11/98

11/11/98

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *11-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810085
Project: 4-1532

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: **LCS-54** Batch ID: **54** Test Code: **E413.2** Units: **mg/L** Analysis Date **11/2/98** Prep Date: **10/30/98**
Client ID: **9810085** Run ID: **TPH 1_981102A** SeqNo: **8255**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease, Total Recoverable	7.65	1	8.3	0	92.2%	80	120				

Sample ID: **LCS-54** Batch ID: **54** Test Code: **E418.1** Units: **mg/L** Analysis Date **11/2/98** Prep Date: **10/30/98**
Client ID: **9810085** Run ID: **TPH 1_981102B** SeqNo: **8403**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, T/R	7.65	5	8.3	0	92.2%	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *11-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810085
Project: 4-1532

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: **CCV1** Batch ID: **54** Test Code: **E413.2** Units: **mg/L** Analysis Date **11/2/98** Prep Date:
Client ID: **9810085** Run ID: **TPH 1_981102A** SeqNo: **8254**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease, Total Recoverable	128	20	124	0	103.2%	80	120				

Sample ID: **CCV1** Batch ID: **54** Test Code: **E418.1** Units: **mg/L** Analysis Date **11/2/98** Prep Date:
Client ID: **9810085** Run ID: **TPH 1_981102B** SeqNo: **8402**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, T/R	128	5	124	0	103.2%	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Date: *11-Nov-98*

On Site Technologies, LTD.

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810085
Project: 4-1532

QC SUMMARY REPORT
Method Blank

Sample ID: **MB1** Batch ID: **GC-2_981110** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/10/98** Prep Date: **11/5/98**
Client ID: **9810085** Run ID: **GC-2_981110A** SeqNo: **8575**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	ND	25									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *11-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810085
Project: 4-1532

QC SUMMARY REPORT

Sample Duplicate

Sample ID: **9810085-04AD** Batch ID: **GC-2_981110** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/10/98** Prep Date: **11/10/98**

Client ID: **Sample #6** **9810085** Run ID: **GC-2_981110A** SeqNo: **8598**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	1026	25	0	0	0.0%	0	0	1092	6.3%	15	

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *11-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810085
Project: 4-1532

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **9810090-01AMS** Batch ID: **GC-2_981110** Test Code: **SW8015** Units: ***mg/Kg*** Analysis Date **11/10/98** Prep Date: **11/10/98**

Client ID: **9810085** Run ID: **GC-2_981110A** SeqNo: **8599**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	465.3	25	502	0	92.7%	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *11-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810085
Project: 4-1532

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: **LCS Soil** Batch ID: **GC-2_981110** Test Code: **SW8015** Units: ***mg/Kg*** Analysis Date **11/10/98** Prep Date: **11/5/98**

Client ID: **9810085** Run ID: **GC-2_981110A** SeqNo: **8577**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	514.8	25	501.9	0	102.6%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *11-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810085
Project: 4-1532

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: **CCV1 DRO_98110** Batch ID: **GC-2_981110** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/10/98** Prep Date:
Client ID: **9810085** Run ID: **GC-2_981110A** SeqNo: **8576**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	434	25	501.9	0	86.5%	85	115				

Sample ID: **CCV2 DRO_98110** Batch ID: **GC-2_981110** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/10/98** Prep Date:
Client ID: **9810085** Run ID: **GC-2_981110A** SeqNo: **8600**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	428.2	25	501.9	0	85.3%	85	115				

Sample ID: **CCV3 DRO_98110** Batch ID: **GC-2_981110** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/10/98** Prep Date:
Client ID: **9810085** Run ID: **GC-2_981110A** SeqNo: **8601**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	460.4	25	501.9	0	91.7%	85	115				

Sample ID: **CCV4 DRO_98110** Batch ID: **GC-2_981110** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/10/98** Prep Date: **11/10/98**
Client ID: **9810085** Run ID: **GC-2_981110A** SeqNo: **8602**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	451.4	25	502	0	89.9%	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *11-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810085
Project: 4-1532

QC SUMMARY REPORT
Method Blank

Sample ID: **MB1** Batch ID: **GC-1_981105** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/5/98** Prep Date:

Client ID: **9810085** Run ID: **GC-1_981105A** SeqNo: **8470**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1									
Ethylbenzene	ND	1									
m,p-Xylene	ND	2									
o-Xylene	ND	1									
Toluene	.0964	1									J

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *11-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810085
Project: 4-1532

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **9810085-10AMS** Batch ID: **GC-1_981105** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/5/98** Prep Date:
Client ID: **Water Sample** **9810085** Run ID: **GC-1_981105A** SeqNo: **8471**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	767.5	20	800	2.45	95.6%	56	128				
Ethylbenzene	768.5	20	800	10.5	94.8%	78	107				
m,p-Xylene	1593	40	1600	79.82	94.6%	67	118				
o-Xylene	821.3	20	800	50.21	96.4%	78	107				
Toluene	779.2	20	800	11.36	96.0%	74	116				

Sample ID: **9810085-10AMSD** Batch ID: **GC-1_981105** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/5/98** Prep Date:
Client ID: **Water Sample** **9810085** Run ID: **GC-1_981105A** SeqNo: **8472**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	742.8	20	800	2.45	92.5%	56	128	767.5	3.3%	12	
Ethylbenzene	742.8	20	800	10.5	91.5%	78	107	768.5	3.4%	11	
m,p-Xylene	1542	40	1600	79.82	91.4%	67	118	1593	3.2%	10	
o-Xylene	797.3	20	800	50.21	93.4%	78	107	821.3	3.0%	14	
Toluene	753.8	20	800	11.36	92.8%	74	116	779.2	3.3%	14	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *11-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810085
Project: 4-1532

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: **LCS WATER** Batch ID: **GC-1_981105** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/5/98** Prep Date:

Client ID: **9810085** Run ID: **GC-1_981105A** SeqNo: **8469**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	38.77	1	40	0	96.9%	56	128				
Ethylbenzene	39.01	1	40	0	97.5%	78	107				
m,p-Xylene	77.04	2	80	0	96.3%	67	118				
o-Xylene	39.61	1	40	0	99.0%	78	107				
Toluene	39.05	1	40	0.0964	97.4%	74	116				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *11-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810085
Project: 4-1532

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: **CCV1 NAP_98110** Batch ID: **GC-1_981105** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/5/98** Prep Date:
Client ID: **9810085** Run ID: **GC-1_981105A** SeqNo: **8467**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.32	1	20	0	96.6%	85	115				
Ethylbenzene	19.59	1	20	0	97.9%	85	115				
m,p-Xylene	38.53	2	40	0	96.3%	85	115				
o-Xylene	19.86	1	20	0	99.3%	85	115				
Toluene	19.52	1	20	0	97.6%	85	115				
1,4-Difluorobenzene	89.14	0	100	0	89.1%	70	130				
4-Bromochlorobenzene	102.8	0	100	0	102.8%	70	130				
Fluorobenzene	87.65	0	100	0	87.7%	70	130				

Sample ID: **CCV2 NAP_98110** Batch ID: **GC-1_981105** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/5/98** Prep Date:
Client ID: **9810085** Run ID: **GC-1_981105A** SeqNo: **8468**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	18.77	1	20	0	93.9%	85	115				
Ethylbenzene	19	1	20	0	95.0%	85	115				
m,p-Xylene	37.35	2	40	0	93.4%	85	115				
o-Xylene	19.29	1	20	0	96.4%	85	115				
Toluene	18.99	1	20	0	95.0%	85	115				
1,4-Difluorobenzene	89.79	0	100	0	89.8%	70	130				
4-Bromochlorobenzene	107.5	0	100	0	107.5%	70	130				
Fluorobenzene	87.51	0	100	0	87.5%	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 11-Nov-98

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810085
Project: 4-1532
Test No: SW8020A

QC SUMMARY REPORT
SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9810085-10A	89.7	102	87.8					
9810085-10AMS	89.2	112	87.7					
9810085-10AMSD	89	112	87.2					
CCV1 NAP_981105	89.1	103	87.6					
CCV2 NAP_981105	89.8	108	87.5					
LCS WATER	89.1	103	87.5					
MB1	88.8	101	86.8					

Acronym		Surrogate	QC Limits
14FBZ	=	1,4-Difluorobenzene	70-130
4BCBZ	=	4-Bromochlorobenzene	70-130
FLBZ	=	Fluorobenzene	70-130

*** Surrogate recovery outside acceptance limits**

1

On Site Technologies, LTD.

Date: *11-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810085
Project: 4-1532

QC SUMMARY REPORT
Method Blank

Sample ID: **MB1** Batch ID: **GC-1_981105** Test Code: **SW8021** Units: **µg/L** Analysis Date **11/5/98** Prep Date:

Client ID: **9810085** Run ID: **GC-1_981105B** SeqNo: **8474**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Napthalene	ND	1									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *11-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810085
Project: 4-1532

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **9810085-10AMS** Batch ID: **GC-1_981105** Test Code: **SW8021** Units: **µg/L** Analysis Date **11/5/98** Prep Date:
Client ID: **Water Sample** **9810085** Run ID: **GC-1_981105B** SeqNo: **8479**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Napthalene	1198	20	1000	211.5	98.7%	70	130				

Sample ID: **9810085-10AMSD** Batch ID: **GC-1_981105** Test Code: **SW8021** Units: **µg/L** Analysis Date **11/5/98** Prep Date:
Client ID: **Water Sample** **9810085** Run ID: **GC-1_981105B** SeqNo: **8480**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Napthalene	1224	20	1000	211.5	101.2%	70	130	1198	2.1%	15	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *11-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810085
Project: 4-1532

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **LCS Water** Batch ID: **GC-1_981105** Test Code: **SW8021** Units: **µg/L** Analysis Date **11/5/98** Prep Date:

Client ID: **9810085** Run ID: **GC-1_981105B** SeqNo: **8476**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Napthalene	53.46	1	50	0	106.9%	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *11-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810085
Project: 4-1532

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: **CCV1 NAP_98110** Batch ID: **GC-1_981105** Test Code: **SW8021** Units: **µg/L** Analysis Date **11/5/98** Prep Date:
Client ID: **9810085** Run ID: **GC-1_981105B** SeqNo: **8475**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Napthalene	51.38	1	50	0	102.8%	85	115				
1,4-Difluorobenzene	93.28	0	100	0	93.3%	70	130				
4-Bromochlorobenzene	98	0	100	0	98.0%	70	130				
Fluorobenzene	92.23	0	100	0	92.2%	70	130				

Sample ID: **CCV2 NAP_98110** Batch ID: **GC-1_981105** Test Code: **SW8021** Units: **µg/L** Analysis Date **11/5/98** Prep Date:
Client ID: **9810085** Run ID: **GC-1_981105B** SeqNo: **8481**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Napthalene	53.72	1	50	0	107.4%	85	115				
1,4-Difluorobenzene	93.96	0	100	0	94.0%	70	130				
4-Bromochlorobenzene	102.5	0	100	0	102.5%	70	130				
Fluorobenzene	92.08	0	100	0	92.1%	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 11-Nov-98

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810085
Project: 4-1532
Test No: SW8021

QC SUMMARY REPORT
SURROGATE RECOVERIES

Volatile Aromatic Organics

Sample ID	14FBZ	4BCBZ	FLBZ					
9810085-10A	93.8	97.5	92.4					
9810085-10AMS	93.3	107	92.3					
9810085-10AMSD	93.2	107	91.8					
CCV1 NAP_981105	93.3	98	92.2					
CCV2 NAP_981105	94	102	92.1					
LCS Water	93.2	98.2	92.1					
MB1	88.8	101	86.8					

Acronym		Surrogate	QC Limits
14FBZ	=	1,4-Difluorobenzene	70-130
4BCBZ	=	4-Bromochlorobenzene	70-130
FLBZ	=	Fluorobenzene	70-130

*** Surrogate recovery outside acceptance limits**

1

CHAIN OF CUSTODY RECORD

5507

ON SITE TECHNOLOGIES, LTD.

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Date: 1/21/1

Page 1 of 1

Purchase Order No.:	Job No. 4-1532		
SEND INVOICE TO: Name		REPORT RESULTS TO: Name	Title
Company	Dept.	Company	
Address		Mailing Address	
City, State, Zip		City, State, Zip	
		Telephone No.	Telefax No.

Sampling Location:

Sampler:

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	ANALYSIS REQUESTED									LAB ID
						DRO/GRO									
					1	X									
					1	X									
					1	X									
					1	X									
					1	X									
					1	X									
					1	X									
					1	X									
					1	X									
					1	X									
					1	X									
					6		X	X	X						

Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

Authorized by: _____ Date _____
(Client Signature Must Accompany Request)

Rush	24-48 Hours	10 Working Days	Special Instructions:

Distribution: White – On Site Yellow – LAB Pink – Sampler Goldenrod – Client

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *30-Nov-98*

Client:	On Site Technologies, Limited Partnership	**Client Sample Info:**	Delasso Loop Road Spill, Pond
Work Order:	9811039	**Client Sample ID:**	Sample 1 BTEX-N
Lab ID:	9811039-01A **Matrix:** AQUEOUS	**Collection Date:**	11/12/98 11:15:00 PM
Project:	4-1532	**COC Record:**	5599

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		**SW8020A**				Analyst: **HR**
Benzene	ND	1		µg/L	1	11/23/98
Toluene	ND	1		µg/L	1	11/23/98
Ethylbenzene	ND	1		µg/L	1	11/23/98
m,p-Xylene	ND	2		µg/L	1	11/23/98
o-Xylene	ND	1		µg/L	1	11/23/98
VOLATILE AROMATIC ORGANICS		**SW8021**				Analyst: **HR**
Napthalene	2.8	1		µg/L	1	11/23/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *30-Nov-98*

Client:	On Site Technologies, Limited Partnership	**Client Sample Info:**	Delasso Loop Road Spill, Pond
Work Order:	9811039	**Client Sample ID:**	Sample 2 Oil & Grease
Lab ID:	9811039-02A **Matrix:** AQUEOUS	**Collection Date:**	11/12/98 11:04:00 AM
Project:	4-1532	**COC Record:**	5599

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
OIL AND GREASE, T/R		**E413.2**				Analyst: **HR**
Oil & Grease, Total Recoverable	ND	5		mg/L	1	11/19/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

November 30, 1998

Larry Trujillo
On Site Technologies, Limited Partnership
612 E. Murray Drive
P.O. Box 2606
Farmington, NM 87499
TEL: (505) 325-5667
FAX (505) 327-1496

RE: 4-1532 Order No.: 9811039

Dear Larry Trujillo,

On Site Technologies, LTD. received 2 samples on 11/12/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
BTEX (SW8020A)
OIL and GREASE, T/R (E413.2)
Volatile Aromatic Organics (SW8021)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

David Cox

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

On Site Technologies, LTD.

Date: *30-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Project: 4-1532
Lab Order: 9811039

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

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On Site Technologies, LTD.

Date: *30-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9811039
Project: 4-1532

QC SUMMARY REPORT
Method Blank

Sample ID: **MB-61** Batch ID: **61** Test Code: **E413.2** Units: **mg/L** Analysis Date **11/19/98** Prep Date: **11/18/98**

Client ID: **9811039** Run ID: **TPH 1_981119B** SeqNo: **8902**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease, Total Recoverable	ND	5									

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *30-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9811039
Project: 4-1532

QC SUMMARY REPORT
Sample Duplicate

Sample ID: **9811039-02AD** Batch ID: **61** Test Code: **E413.2** Units: **mg/L** Analysis Date **11/19/98** Prep Date: **11/18/98**
Client ID: **Sample 2 Oil & Gr** **9811039** Run ID: **TPH 1_981119B** SeqNo: **8907**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease, Total Recoverable	ND	5	0	0	0.0%	0	0	0	0.0%	15	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *30-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9811039
Project: 4-1532

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: **LCS-61** Batch ID: **61** Test Code: **E413.2** Units: ***mg/L*** Analysis Date **11/19/98** Prep Date: **11/18/98**

Client ID: **9811039** Run ID: **TPH 1_981119B** SeqNo: **8904**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease, Total Recoverable	7.4	5	8.3	0	89.2%	80	120				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *30-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9811039
Project: 4-1532

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: **CCV1**	Batch ID: **61**	Test Code: **E413.2**	Units: **mg/L**	Analysis Date **11/19/98**	Prep Date:
Client ID:	**9811039**	Run ID: **TPH 1_981119B**		SeqNo: **8903**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease, Total Recoverable	125	25	124	0	100.8%	80	120				

Sample ID: **CCV2**	Batch ID: **61**	Test Code: **E413.2**	Units: **mg/L**	Analysis Date **11/19/98**	Prep Date:
Client ID:	**9811039**	Run ID: **TPH 1_981119B**		SeqNo: **8909**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease, Total Recoverable	126	25	124	0	101.6%	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *30-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9811039
Project: 4-1532

QC SUMMARY REPORT
Method Blank

Sample ID: **MB1** Batch ID: **GC-1_981123** Test Code: **SW8021** Units: **µg/L** Analysis Date **11/23/98** Prep Date:

Client ID: **9811039** Run ID: **GC-1_981123B** SeqNo: **9020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Napthalene	ND	1									

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *30-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9811039
Project: 4-1532

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **9811039-01AMS** Batch ID: **GC-1_981123** Test Code: **SW8021** Units: **µg/L** Analysis Date **11/23/98** Prep Date:
Client ID: **Sample 1 BTEX-N** **9811039** Run ID: **GC-1_981123B** SeqNo: **9021**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Napthalene	1070	10	1000	13.69	105.6%	70	130				

Sample ID: **9811039-01AMSD** Batch ID: **GC-1_981123** Test Code: **SW8021** Units: **µg/L** Analysis Date **11/23/98** Prep Date:
Client ID: **Sample 1 BTEX-N** **9811039** Run ID: **GC-1_981123B** SeqNo: **9022**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Napthalene	1057	10	1000	13.69	104.3%	70	130	1070	1.2%	20	R

11/30/98

11/30/98

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *30-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9811039
Project: 4-1532

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **LCS** Batch ID: **GC-1_981123** Test Code: **SW8021** Units: **µg/L** Analysis Date **11/23/98** Prep Date:

Client ID: **9811039** Run ID: **GC-1_981123B** SeqNo: **9019**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Napthalene	114.5	1	100	0	114.5%	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *30-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9811039
Project: 4-1532

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: **CCV1 NAP_98110** Batch ID: **GC-1_981123** Test Code: **SW8021** Units: **µg/L** Analysis Date **11/23/98** Prep Date:
Client ID: **9811039** Run ID: **GC-1_981123B** SeqNo: **9017**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Napthalene	55.36	1	50	0	110.7%	85	115				
1,4-Difluorobenzene	93.29	0	100	0	93.3%	70	130				
4-Bromochlorobenzene	100.9	0	100	0	100.9%	70	130				
Fluorobenzene	92.04	0	100	0	92.0%	70	130				

Sample ID: **CCV2 NAP_98110** Batch ID: **GC-1_981123** Test Code: **SW8021** Units: **µg/L** Analysis Date **11/23/98** Prep Date:
Client ID: **9811039** Run ID: **GC-1_981123B** SeqNo: **9018**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Napthalene	54.23	1	50	0	108.5%	85	115				
1,4-Difluorobenzene	93.4	0	100	0	93.4%	70	130				
4-Bromochlorobenzene	100.6	0	100	0	100.6%	70	130				
Fluorobenzene	91.82	0	100	0	91.8%	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 30-Nov-98

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9811039
Project: 4-1532
Test No: SW8021

QC SUMMARY REPORT
SURROGATE RECOVERIES

Volatile Aromatic Organics

Sample ID	14FBZ	4BCBZ	FLBZ
9811039-01A	93.4	100	92
9811039-01AMS	92.5	101	91.8
9811039-01AMSD	92.9	101	91.9
CCV1 NAP_981105	93.3	101	92
CCV2 NAP_981105	93.4	100	91.8
LCS	93.4	100	91.9
MB1	93.4	101	92

Acronym		Surrogate	QC Limits
14FBZ	=	1,4-Difluorobenzene	70-130
4BCBZ	=	4-Bromochlorobenzene	70-130
FLBZ	=	Fluorobenzene	70-130

*** Surrogate recovery outside acceptance limits**

1

On Site Technologies, *LTD.*

Date: *30-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9811039
Project: 4-1532

QC SUMMARY REPORT
Method Blank

Sample ID: **MB1** Batch ID: **GC-1_981123** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/23/98** Prep Date:
Client ID: **9811039** Run ID: **GC-1_981123A** SeqNo: **8982**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.0733	1									J
Ethylbenzene	.1182	1									J
m,p-Xylene	.2526	2									J
Methyl tert-Butyl Ether	ND	1									
o-Xylene	.1434	1									J
Toluene	.1328	1									J

Sample ID: **MB1** Batch ID: **GC-1_981123** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/23/98** Prep Date:
Client ID: **9811039** Run ID: **GC-1_981123C** SeqNo: **9086**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.3329	1									J
Ethylbenzene	.3386	1									J
m,p-Xylene	.6952	2									J
o-Xylene	.3056	1									J
Toluene	.4393	1									J

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *30-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9811039
Project: 4-1532

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **9811039-01AMS** Batch ID: **GC-1_981123** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/23/98** Prep Date:
Client ID: **Sample 1 BTEX-N** **9811039** Run ID: **GC-1_981123A** SeqNo: **8983**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	402.4	10	400	1.118	100.3%	56	128				
Ethylbenzene	406	10	400	1.616	101.1%	78	107				
m,p-Xylene	808.1	20	800	3.587	100.6%	67	118				
Methyl tert-Butyl Ether	395.8	10	400	0	98.9%	70	130				
o-Xylene	414.8	10	400	1.83	103.2%	78	107				
Toluene	408.1	10	400	1.968	101.5%	74	116				

Sample ID: **9811039-01AMSD** Batch ID: **GC-1_981123** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/23/98** Prep Date:
Client ID: **Sample 1 BTEX-N** **9811039** Run ID: **GC-1_981123A** SeqNo: **8984**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	389.6	10	400	1.118	97.1%	56	128	402.4	3.2%	12	
Ethylbenzene	392.4	10	400	1.616	97.7%	78	107	406	3.4%	11	
m,p-Xylene	783.9	20	800	3.587	97.5%	67	118	808.1	3.0%	10	
Methyl tert-Butyl Ether	388.6	10	400	0	97.2%	70	130	395.8	1.8%	15	
o-Xylene	402.9	10	400	1.83	100.3%	78	107	414.8	2.9%	14	
Toluene	395.3	10	400	1.968	98.3%	74	116	408.1	3.2%	14	

Sample ID: **9811039-01AMS** Batch ID: **GC-1_981123** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/23/98** Prep Date:
Client ID: **Sample 1 BTEX-N** **9811039** Run ID: **GC-1_981123C** SeqNo: **9087**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	390.7	10	400	0.702	97.5%	56	128				
Ethylbenzene	397.9	10	400	1.038	99.2%	78	107				
m,p-Xylene	789.3	20	800	2.271	98.4%	67	118				
o-Xylene	404.6	10	400	1.243	100.8%	78	107				
Toluene	397.6	10	400	1.382	99.1%	74	116				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9811039
Project: 4-1532

QC SUMMARY REPORT
Sample Matrix Spike Duplicate

Sample ID: **9811039-01AMSD** Batch ID: **GC-1_981123** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/23/98** Prep Date:
Client ID: **Sample 1 BTEX-N** **9811039** Run ID: **GC-1_981123C** SeqNo: **9088**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	380.6	10	400	0.702	95.0%	56	128	390.7	2.6%	12	
Ethylbenzene	387.1	10	400	1.038	96.5%	78	107	397.9	2.8%	11	
m,p-Xylene	769.8	20	800	2.271	95.9%	67	118	789.3	2.5%	10	
o-Xylene	395.7	10	400	1.243	98.6%	78	107	404.6	2.2%	14	
Toluene	387.4	10	400	1.382	96.5%	74	116	397.6	2.6%	14	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Date: *30-Nov-98*

On Site Technologies, LTD.

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9811039
Project: 4-1532

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **LCS WATER** Batch ID: **GC-1_981123** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/23/98** Prep Date:
Client ID: **9811039** Run ID: **GC-1_981123A** SeqNo: **8981**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	78.96	1	80	0.0733	98.6%	56	128				
Ethylbenzene	79.94	1	80	0.1182	99.8%	78	107				
m,p-Xylene	158.2	2	160	0.2526	98.7%	67	118				
Methyl tert-Butyl Ether	76.64	1	80	0	95.8%	70	130				
o-Xylene	81.03	1	80	0.1434	101.1%	78	107				
Toluene	80.12	1	80	0.1328	100.0%	74	116				

Sample ID: **LCS WATER** Batch ID: **GC-1_981123** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/23/98** Prep Date:
Client ID: **9811039** Run ID: **GC-1_981123C** SeqNo: **9085**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	41.58	1	40	0.3329	103.1%	56	128				
Ethylbenzene	42.82	1	40	0.3386	106.2%	78	107				
m,p-Xylene	84.33	2	80	0.6952	104.5%	67	118				
o-Xylene	42.96	1	40	0.3056	106.6%	78	107				
Toluene	42.36	1	40	0.4393	104.8%	74	116				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *30-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9811039
Project: 4-1532

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: **CCV1 QC0606/07** Batch ID: **GC-1_981123** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/23/98** Prep Date:
Client ID: **9811039** Run ID: **GC-1_981123A** SeqNo: **8979**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.81	1	20	0	99.1%	85	115				
Ethylbenzene	20.42	1	20	0	102.1%	85	115				
m,p-Xylene	40.24	2	40	0	100.6%	85	115				
Methyl tert-Butyl Ether	19.95	1	20	0	99.7%	85	115				
o-Xylene	20.76	1	20	0	103.8%	85	115				
Toluene	20.25	1	20	0	101.2%	85	115				
1,4-Difluorobenzene	89.36	0	100	0	89.4%	70	130				
4-Bromochlorobenzene	104	0	100	0	104.0%	70	130				
Fluorobenzene	87.24	0	100	0	87.2%	70	130				

Sample ID: **CCV2 QC0606/07** Batch ID: **GC-1_981123** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/23/98** Prep Date:
Client ID: **9811039** Run ID: **GC-1_981123A** SeqNo: **8980**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.68	1	20	0	103.4%	85	115				
Ethylbenzene	21.27	1	20	0	106.4%	85	115				
m,p-Xylene	41.75	2	40	0	104.4%	85	115				
Methyl tert-Butyl Ether	20.4	1	20	0	102.0%	85	115				
o-Xylene	21.52	1	20	0	107.6%	85	115				
Toluene	21.05	1	20	0	105.3%	85	115				
1,4-Difluorobenzene	89.3	0	100	0	89.3%	70	130				
4-Bromochlorobenzene	104	0	100	0	104.0%	70	130				
Fluorobenzene	87.42	0	100	0	87.4%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9811039
Project: 4-1532

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: **CCV1 QC0606/07** Batch ID: **GC-1_981123** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/23/98** Prep Date:
Client ID: **9811039** Run ID: **GC-1_981123C** SeqNo: **9083**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.58	1	20	0	102.9%	85	115				
Ethylbenzene	21.22	1	20	0	106.1%	85	115				
m,p-Xylene	41.68	2	40	0	104.2%	85	115				
o-Xylene	21.41	1	20	0	107.1%	85	115				
Toluene	21.01	1	20	0	105.1%	85	115				
1,4-Difluorobenzene	89.15	0	100	0	89.1%	70	130				
4-Bromochlorobenzene	105.8	0	100	0	105.8%	70	130				
Fluorobenzene	87.47	0	100	0	87.5%	70	130				

Sample ID: **CCV2 QC0606/07** Batch ID: **GC-1_981123** Test Code: **SW8020A** Units: **µg/L** Analysis Date **11/23/98** Prep Date:
Client ID: **9811039** Run ID: **GC-1_981123C** SeqNo: **9084**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.01	1	20	0	100.0%	85	115				
Ethylbenzene	20.61	1	20	0	103.1%	85	115				
m,p-Xylene	40.5	2	40	0	101.2%	85	115				
o-Xylene	20.94	1	20	0	104.7%	85	115				
Toluene	20.46	1	20	0	102.3%	85	115				
1,4-Difluorobenzene	89.25	0	100	0	89.2%	70	130				
4-Bromochlorobenzene	105.5	0	100	0	105.5%	70	130				
Fluorobenzene	87.26	0	100	0	87.3%	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 30-Nov-98

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9811039
Project: 4-1532
Test No: SW8020A

QC SUMMARY REPORT
SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9811039-01A	89.3	105	87.5					
9811039-01AMS	88.4	106	87.3					
9811039-01AMSD	88.8	106	87.4					
9811055-01A	88.1	104	87.2					
CCV1 QC0606/07	89.1	106	87.5					
CCV2 QC0606/07	89.2	106	87.3					
LCS WATER	89.2	105	87.4					
MB1	89.2	106	87.4					

Acronym		Surrogate	QC Limits
14FBZ	=	1,4-Difluorobenzene	70-130
4BCBZ	=	4-Bromochlorobenzene	70-130
FLBZ	=	Fluorobenzene	70-130

*** Surrogate recovery outside acceptance limits**

1

CHAIN OF CUSTODY RECORD

5599

ON SITE TECHNOLOGIES, LTD.

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Date: 11/12/98

Page 1 of

Purchase Order No.:	Job No. 4-1532		
SEND INVOICE TO: Name	Larry Trujillo	REPORT RESULTS TO: Name	Larry Trujillo / Title
Company	Four-Four Inc / Dept.	Company	Four-Four Inc
Address		Mailing Address	
City, State, Zip		City, State, Zip	
		Telephone No.	Telefax No.

Sampling Location: Delaware Loop Road Spill Pond

Sampler: Larry Trujillo

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	ANALYSIS REQUESTED: Ethyl Mercaptan	ANALYSIS REQUESTED: Oil & Grease	LAB ID
Sample 1 Ethyl	11/12/98	1115	H2O	None	4	✓		11111-1A
Sample 2 Oil & Grease	"	1104	"	"	2		✓	-2A

Relinquished by: Jay	Date/Time 11/12/98 1254	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

Authorized by: _____ Date _____
(Client Signature Must Accompany Request)

Rush	24-48 Hours	10 Working Days	Special Instructions:

Distribution: White – On Site Yellow – LAB Pink – Sampler Goldenrod – Client

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *11-Nov-98*

Client:	On Site Technologies, Limited Partnership	**Client Sample Info:**	Delusso Loop Spill
Work Order:	9810087	**Client Sample ID:**	S-20
Lab ID:	9810087-01A **Matrix:** SOIL	**Collection Date:**	10/29/98 9:00:00 AM
Project:	4-1532	**COC Record:**	5588

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		**SW8015**				Analyst: **HR**
T/R Hydrocarbons: C10-C28	ND	25		mg/Kg	1	11/10/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *11-Nov-98*

Client:	On Site Technologies, Limited Partnership	**Client Sample Info:**	Delusso Loop Spill
Work Order:	9810087	**Client Sample ID:**	S-21
Lab ID:	9810087-02A **Matrix:** SOIL	**Collection Date:**	10/29/98 9:10:00 AM
Project:	4-1532	**COC Record:**	5588

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		**SW8015**				Analyst: **HR**
T/R Hydrocarbons: C10-C28	ND	25		mg/Kg	1	11/10/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

November 11, 1998

Larry Trujillo
On Site Technologies, Limited Partnership
612 E. Murray Drive
P.O. Box 2606
Farmington, NM 87499
TEL: (505) 325-5667
FAX (505) 327-1496

RE: 4-1532 Order No.: 9810087

Dear Larry Trujillo,

On Site Technologies, LTD. received 2 samples on 10/29/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
Diesel Range Organics (SW8015)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

David Cox

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

On Site Technologies, LTD. **Date:** *11-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Project: 4-1532
Lab Order: 9810087

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

P.O. BOX 2606 • FARMINGTON, NM 87499

Date: *11-Nov-98*

On Site Technologies, LTD.

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810087
Project: 4-1532

QC SUMMARY REPORT
Method Blank

Sample ID: **MB1** Batch ID: **GC-2_981110** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/10/98** Prep Date: **11/5/98**
Client ID: **9810087** Run ID: **GC-2_981110A** SeqNo: **8575**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	ND	25									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *11-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810087
Project: 4-1532

QC SUMMARY REPORT

Sample Duplicate

Sample ID: **9810085-04AD** Batch ID: **GC-2_981110** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/10/98** Prep Date: **11/10/98**

Client ID: **9810087** Run ID: **GC-2_981110A** SeqNo: **8598**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	1026	25	0	0	0.0%	0	0	1092	6.3%	15	

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

Date: *11-Nov-98*

On Site Technologies, LTD.

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810087
Project: 4-1532

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **9810090-01AMS** Batch ID: **GC-2_981110** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/10/98** Prep Date: **11/10/98**
Client ID: **9810087** Run ID: **GC-2_981110A** SeqNo: **8599**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	465.3	25	502	0	92.7%	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *11-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810087
Project: 4-1532

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: **LCS Soil** Batch ID: **GC-2_981110** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/10/98** Prep Date: **11/5/98**

Client ID: **9810087** Run ID: **GC-2_981110A** SeqNo: **8577**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	514.8	25	501.9	0	102.6%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *11-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810087
Project: 4-1532

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: **CCV1 DRO_98110** Batch ID: **GC-2_981110** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/10/98** Prep Date:
Client ID: **9810087** Run ID: **GC-2_981110A** SeqNo: **8576**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	434	25	501.9	0	86.5%	85	115				

Sample ID: **CCV2 DRO_98110** Batch ID: **GC-2_981110** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/10/98** Prep Date:
Client ID: **9810087** Run ID: **GC-2_981110A** SeqNo: **8600**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	428.2	25	501.9	0	85.3%	85	115				

Sample ID: **CCV3 DRO_98110** Batch ID: **GC-2_981110** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/10/98** Prep Date:
Client ID: **9810087** Run ID: **GC-2_981110A** SeqNo: **8601**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	460.4	25	501.9	0	91.7%	85	115				

Sample ID: **CCV4 DRO_98110** Batch ID: **GC-2_981110** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/10/98** Prep Date: **11/10/98**
Client ID: **9810087** Run ID: **GC-2_981110A** SeqNo: **8602**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	451.4	25	502	0	89.9%	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CHAIN OF CUSTODY RECORD

ON SITE TECHNOLOGIES, LTD.

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Date: 10/29/94

Page 1 of 1

Purchase Order No.:

Job No. 21-1532

SEND INVOICE TO
Name: Four-Four Inc.
Company:
Dept.:
Address:
City, State, Zip:

REPORT RESULTS TO
Name: Larry Trujillo
Title:
Company: Four-Four Inc
Mailing Address:
City, State, Zip:
Telephone No.:
Telefax No.:

Sampling Location: Del... Loop Spill

Sampler: Larry Trujillo

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	ANALYSIS REQUESTED: DRO	LAB ID
S-20	10/29/94	0900	Soil	None	1		
S-21	"	0910	Soil	N/C	1		

Relinquished by: [signature] Date/Time 10/29/94/1130 Received by: Date/Time
Relinquished by: Date/Time Received by: Date/Time
Relinquished by: Date/Time Received by: Date/Time

Method of Shipment:

Rush | 24-48 Hours | 10 Working Days | Special Instructions:

Authorized by: ________ Date ________
(Client Signature Must Accompany Request)

Distribution: White – On Site Yellow – LAB Pink – Sampler Goldenrod – Client

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *20-Nov-98*

Client:	On Site Technologies, Limited Partnership	**Client Sample Info:**	S.R. 539, Delusso Loop Rd Spill
Work Order:	9810084	**Client Sample ID:**	"Worst Case" Stockpile 6pt. Comp
Lab ID:	9810084-01A **Matrix:** SOIL	**Collection Date:**	10/27/98 11:00:00 PM
Project:	4-1532	**COC Record:**	5586

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		**SW8015**				Analyst: **HR**
T/R Hydrocarbons: C10-C28	16000	250		mg/Kg	10	11/10/98
GASOLINE RANGE ORGANICS		**SW8015**				Analyst: **DC**
T/R Hydrocarbons: C6-C10	440	45		mg/Kg	250	10/30/98
BTEX		**SW8020A**				Analyst: **DC**
Benzene	410	250		µg/Kg	250	10/29/98
Toluene	4900	500		µg/Kg	250	10/29/98
Ethylbenzene	4600	250		µg/Kg	250	10/29/98
m,p-Xylene	22000	500		µg/Kg	250	10/29/98
o-Xylene	9100	250		µg/Kg	250	10/29/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

Mountain States Analytical, Inc.
The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Solid Analysis

MSAI Sample: 88859
MSAI Group: 24652
Date Reported: 11/11/98
Discard Date: 12/11/98
Date Submitted: 10/29/98
Date Sampled: 10/27/98
Collected by:
Purchase Order:
Project No.: 9810084

Sample ID: 9810084-01B
Matrix: Soil

S.R.539, Delusso Loop Road Spill "Worst Case" Stockpile 6pt. Comp.

Test	Analysis	Results as Received	Units	Dilution Factor		Limit of Quantitation
0259T	Mercury by CVAA, TCLP, 7470	ND	mg/l	1		0.0005
	Method: SW-846 7470					
0392N	Mercury Prep CVAA, TCLP, 7470	Batch. w269		1		
	Method: SW-846 7470					
0393T	Flame/hrICP Prep, TCLP, 3010A	Batch. w738		1		
	Method: SW-846 3010A					
13004	Metals by hrICP, TCLP (UTS)					
	Method: SW-846 6010A					
	Arsenic	ND	mg/l	1		0.08
	Barium	1.02	mg/l	1		1.00
	Cadmium	ND	mg/l	1		0.005
	Chromium	ND	mg/l	1		0.03
	Lead	ND	mg/l	1		0.08
	Selenium	ND	mg/l	1		0.08
	Silver	ND	mg/l	1		0.02
0395	Corrosivity, sw, 9045C	7.88	Std. Units	1		0.05
	Method: SW-846 9045C					
0542	Ignitability, sw					
	Method: MSAI IN HOUSE					
	Ignitable upon water contact	Negative	Degrees F	1		
	Ignitable by friction	Negative	Degrees F	1		
	Spontaneously combusts in air	Negative	Degrees F	1		
	Ignitability	>146	Degrees F	1	(1)	50
0947J	TCLP Extraction, hrICP, Metals	100	% solids	1		0.001
	Method: SW-846 1311					

Mountain States Analytical, Inc.

The Quality Solution

November 11, 1998

Mr. David Cox
On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Reference:
Project: Solid Analysis
Project No.: 9810084
MSAI Group: 24652

Dear Mr. Cox:

Enclosed are the analytical results for your project referenced above. The following sample is included in the report.

9810084-01B

All holding times were met for the tests performed on these samples.

Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

Rolf E. Larsen
Project Manager

Mountain States Analytical, Inc.
The Quality Solution

On Site Technologies, Ltd.

MSAI Sample: 88859
MSAI Group: 24652

Sample ID: 9810084-01B

Test	Analysis	Results as Received	Units	Dilution Factor	Limit of Quantitation
0947M	TCLP Extraction, Mercury, 1311 Method: SW-846 1311	100	% Solids	1	0.001
1121	Reactivity, (Cyanide & Sulfide)sw Method: SW-846 CHAPTER 7.3				
	Cyanide (Reactive)	ND	mg/kg	1	55
	Sulfide (reactive)	ND	mg/kg	1	120

1) Sample did not ignite up to 146 F.

ND - Not detected at the Limit of Quantitation.

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

On Site Technologies, LTD.

Date: *20-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810084
Project: 4-1532

QC SUMMARY REPORT
Method Blank

Sample ID: **MB1** Batch ID: **GC-2_981110** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/10/98** Prep Date: **11/5/98**

Client ID: **9810084** Run ID: **GC-2_981110A** SeqNo: **8575**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	ND	25									

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

November 20, 1998

Cindy Gray
On Site Technologies, Limited Partnership
612 E. Murray Drive
P.O. Box 2606
Farmington, NM 87499
TEL: (505) 325-5667
FAX (505) 327-1496

RE: 4-1532 Order No.: 9810084

Dear Cindy Gray,

On Site Technologies, LTD. received 1 sample on 10/28/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:

AQPREP TOTAL METALS: ICP (SW3010A)
BTEX (SW8020A)
CORROSIVITY by pH (SW9045B)
CYANIDE, Reactive (SW7.3.3.2)
Diesel Range Organics (SW8015)
Gasoline Range Organics (SW8015)
ICP METALS, TCLP Leached (SW1311/6010A)
IGNITABILITY (SW1010)
MERCURY, TCLP Leached (SW7470)
SULFIDE, Reactive (SW7.3.4.2)
TCLP Sample Prep (Metals) (SW1311)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

David Cox

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

On Site Technologies, LTD. **Date:** *20-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Project: 4-1532
Lab Order: 9810084

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

P.O. BOX 2606 • FARMINGTON, NM 87499

On Site Technologies, LTD.

Date: *20-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810084
Project: 4-1532

QC SUMMARY REPORT

Sample Duplicate

Sample ID: **9810085-04AD** Batch ID: **GC-2_981110** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/10/98** Prep Date: **11/10/98**

Client ID: **9810084** Run ID: **GC-2_981110A** SeqNo: **8598**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	1026	25	0	0	0.0%	0	0	1092	6.3%	15	

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *20-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810084
Project: 4-1532

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **9810090-01AMS** Batch ID: **GC-2_981110** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/10/98** Prep Date: **11/10/98**
Client ID: **9810084** Run ID: **GC-2_981110A** SeqNo: **8599**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	465.3	25	502	0	92.7%	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *20-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810084
Project: 4-1532

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: **LCS Soil** Batch ID: **GC-2_981110** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/10/98** Prep Date: **11/5/98**

Client ID: **9810084** Run ID: **GC-2_981110A** SeqNo: **8577**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	514.8	25	501.9	0	102.6%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *20-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810084
Project: 4-1532

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: **CCV1 DRO_98110** Batch ID: **GC-2_981110** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/10/98** Prep Date:
Client ID: **9810084** Run ID: **GC-2_981110A** SeqNo: **8576**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	434	25	501.9	0	86.5%	85	115				

Sample ID: **CCV2 DRO_98110** Batch ID: **GC-2_981110** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/10/98** Prep Date:
Client ID: **9810084** Run ID: **GC-2_981110A** SeqNo: **8600**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	428.2	25	501.9	0	85.3%	85	115				

Sample ID: **CCV3 DRO_98110** Batch ID: **GC-2_981110** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/10/98** Prep Date:
Client ID: **9810084** Run ID: **GC-2_981110A** SeqNo: **8601**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	460.4	25	501.9	0	91.7%	85	115				

Sample ID: **CCV4 DRO_98110** Batch ID: **GC-2_981110** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/10/98** Prep Date: **11/10/98**
Client ID: **9810084** Run ID: **GC-2_981110A** SeqNo: **8602**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	451.4	25	502	0	89.9%	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *20-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810084
Project: 4-1532

QC SUMMARY REPORT
Method Blank

Sample ID: **MB1** Batch ID: **GC-1_981030** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **10/30/98** Prep Date:

Client ID: **9810084** Run ID: **GC-1_981030A** SeqNo: **8288**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C10	ND	0.18									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *20-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810084
Project: 4-1532

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **9810080-01AMS** Batch ID: **GC-1_981030** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **10/30/98** Prep Date:
Client ID: **9810084** Run ID: **GC-1_981030A** SeqNo: **8292**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C10	1.714	0.18	1.801	0	95.2%	52	123				

Sample ID: **9810080-01AMSD** Batch ID: **GC-1_981030** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **10/30/98** Prep Date:
Client ID: **9810084** Run ID: **GC-1_981030A** SeqNo: **8293**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C10	1.68	0.18	1.801	0	93.3%	52	123	1.714	2.0%	14	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *20-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810084
Project: 4-1532

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **LCS Soil** Batch ID: **GC-1_981030** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **10/30/98** Prep Date:
Client ID: **9810084** Run ID: **GC-1_981030A** SeqNo: **8290**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C10	1.733	0.18	1.801	0	96.2%	52	123				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *20-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810084
Project: 4-1532

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: **CCV1 QC0613** Batch ID: **GC-1_981030** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **10/30/98** Prep Date:
Client ID: **9810084** Run ID: **GC-1_981030A** SeqNo: **8289**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C10	1.89	0.18	1.801	0	104.9%	85	115				
Trifluorotoluene	.0801	0	0.08	0	100.1%	70	130				

Sample ID: **CCV2 QC0613** Batch ID: **GC-1_981030** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **10/30/98** Prep Date:
Client ID: **9810084** Run ID: **GC-1_981030A** SeqNo: **8304**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C10	1.941	0.18	1.801	0	107.8%	85	115				
Trifluorotoluene	.0811	0	0.08	0	101.4%	70	130				

Sample ID: **CCV3 QC0613** Batch ID: **GC-1_981030** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **10/30/98** Prep Date:
Client ID: **9810084** Run ID: **GC-1_981030A** SeqNo: **8305**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C10	1.944	0.18	1.801	0	107.9%	85	115				
Trifluorotoluene	.0882	0	0.08	0	110.3%	70	130				

Sample ID: **CCV4 QC0613** Batch ID: **GC-1_981030** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **10/30/98** Prep Date:
Client ID: **9810084** Run ID: **GC-1_981030A** SeqNo: **8306**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C10	1.973	0.18	1.801	0	109.5%	85	115				
Trifluorotoluene	.0905	0	0.08	0	113.1%	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810084
Project: 4-1532

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: **CCV5 QC0613** Batch ID: **GC-1_981030** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **10/30/98** Prep Date:

Client ID: **9810084** Run ID: **GC-1_981030A** SeqNo: **8310**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C10	1.954	0.18	1.801	0	108.5%	85	115				
Trifluorotoluene	.0886	0	0.08	0	110.8%	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *20-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810084
Project: 4-1532

QC SUMMARY REPORT
Method Blank

Sample ID: **MB1** Batch ID: **GC-1_981028** Test Code: **SW8020A** Units: **µg/Kg** Analysis Date **10/28/98** Prep Date:
Client ID: **9810084** Run ID: **GC-1_981028A** SeqNo: **8187**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1									
Ethylbenzene	ND	1									
m,p-Xylene	ND	2									
o-Xylene	.5945	1									J
Toluene	ND	2									

Sample ID: **MB1** Batch ID: **GC-1_981029** Test Code: **SW8020A** Units: **µg/Kg** Analysis Date **10/29/98** Prep Date:
Client ID: **9810084** Run ID: **GC-1_981029A** SeqNo: **8231**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1									
Ethylbenzene	ND	1									
m,p-Xylene	ND	2									
o-Xylene	ND	1									
Toluene	.7155	2									J

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *20-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810084
Project: 4-1532

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **9810072-01AMS** Batch ID: **GC-1_981028** Test Code: **SW8020A** Units: **µg/Kg** Analysis Date **10/28/98** Prep Date:
Client ID: **9810084** Run ID: **GC-1_981028A** SeqNo: **8188**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	60.53	1	60	0	100.9%	71	116				
Ethylbenzene	59.86	1	60	0.5984	98.8%	68	120				
m,p-Xylene	120.9	2	120	3.002	98.3%	60	121				
o-Xylene	59.58	1	60	1.486	96.8%	69	124				
Toluene	62.02	2	60	1.835	100.3%	62	128				

Sample ID: **9810072-01AMSD** Batch ID: **GC-1_981028** Test Code: **SW8020A** Units: **µg/Kg** Analysis Date **10/28/98** Prep Date:
Client ID: **9810084** Run ID: **GC-1_981028A** SeqNo: **8189**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	59.74	1	60	0	99.6%	71	116	60.53	1.3%	15	
Ethylbenzene	58.79	1	60	0.5984	97.0%	68	120	59.86	1.8%	15	
m,p-Xylene	119	2	120	3.002	96.7%	60	121	120.9	1.6%	15	
o-Xylene	58.85	1	60	1.486	95.6%	69	124	59.58	1.2%	15	
Toluene	61.31	2	60	1.835	99.1%	62	128	62.02	1.2%	15	

Sample ID: **9810080-01AMS** Batch ID: **GC-1_981029** Test Code: **SW8020A** Units: **µg/Kg** Analysis Date **10/29/98** Prep Date:
Client ID: **9810084** Run ID: **GC-1_981029A** SeqNo: **8232**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	54.94	1	60	0	91.6%	71	116				
Ethylbenzene	52.69	1	60	0	87.8%	68	120				
m,p-Xylene	99.51	2	120	0.9785	82.1%	60	121				
o-Xylene	60.45	1	60	0.507	99.9%	69	124				
Toluene	55.82	2	60	0	93.0%	62	128				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810084
Project: *4-1532*

QC SUMMARY REPORT
Sample Matrix Spike Duplicate

Sample ID: **9810080-01AMSD** Batch ID: **GC-1_981029** Test Code: **SW8020A** Units: **µg/Kg** Analysis Date **10/29/98** Prep Date:

Client ID: **9810084** Run ID: **GC-1_981029A** SeqNo: **8233**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	52.9	1	60	0	88.2%	71	116	54.94	3.8%	15	
Ethylbenzene	50.19	1	60	0	83.7%	68	120	52.69	4.9%	15	
m,p-Xylene	97.73	2	120	0.9785	80.6%	60	121	99.51	1.8%	15	
o-Xylene	58.84	1	60	0.507	97.2%	69	124	60.45	2.7%	15	
Toluene	53.75	2	60	0	89.6%	62	128	55.82	3.8%	15	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *20-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810084
Project: 4-1532

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: **LCS SOIL** Batch ID: **GC-1_981028** Test Code: **SW8020A** Units: **µg/Kg** Analysis Date **10/28/98** Prep Date:

Client ID: **9810084** Run ID: **GC-1_981028A** SeqNo: **8186**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	61.22	1	60	0	102.0%	71	116				
Ethylbenzene	60.9	1	60	0	101.5%	68	120				
m,p-Xylene	121.6	2	120	0	101.4%	60	121				
o-Xylene	60.77	1	60	0.5945	100.3%	69	124				
Toluene	61.38	2	60	0	102.3%	62	128				

Sample ID: **LCS SOIL** Batch ID: **GC-1_981029** Test Code: **SW8020A** Units: **µg/Kg** Analysis Date **10/29/98** Prep Date:

Client ID: **9810084** Run ID: **GC-1_981029A** SeqNo: **8230**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	60.46	1	60	0	100.8%	71	116				
Ethylbenzene	60.52	1	60	0	100.9%	68	120				
m,p-Xylene	121	2	120	0	100.8%	60	121				
o-Xylene	60.49	1	60	0	100.8%	69	124				
Toluene	60.65	2	60	0.7155	99.9%	62	128				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *20-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810084
Project: 4-1532

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: **CCV1 QC0606/07** Batch ID: **GC-1_981028** Test Code: **SW8020A** Units: **µg/Kg** Analysis Date **10/28/98** Prep Date:
Client ID: **9810084** Run ID: **GC-1_981028A** SeqNo: **8183**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	57.41	1	60	0	95.7%	85	115				
Ethylbenzene	57.77	1	60	0	96.3%	85	115				
m,p-Xylene	115.8	2	120	0	96.5%	85	115				
o-Xylene	57.69	1	60	0	96.2%	85	115				
Toluene	58.33	2	60	0	97.2%	85	115				
1,4-Difluorobenzene	81.19	0	80	0	101.5%	70	130				
4-Bromochlorobenzene	80.05	0	80	0	100.1%	50	150				
Fluorobenzene	79.75	0	80	0	99.7%	70	130				

Sample ID: **CCV2 QC0606/07** Batch ID: **GC-1_981028** Test Code: **SW8020A** Units: **µg/Kg** Analysis Date **10/28/98** Prep Date:
Client ID: **9810084** Run ID: **GC-1_981028A** SeqNo: **8184**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	61.8	1	60	0	103.0%	85	115				
Ethylbenzene	60.24	1	60	0	100.4%	85	115				
m,p-Xylene	120	2	120	0	100.0%	85	115				
o-Xylene	60.3	1	60	0	100.5%	85	115				
Toluene	61.8	2	60	0	103.0%	85	115				
1,4-Difluorobenzene	81.23	0	80	0	101.5%	70	130				
4-Bromochlorobenzene	80.11	0	80	0	100.1%	50	150				
Fluorobenzene	80.95	0	80	0	101.2%	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810084
Project: 4-1532

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: ***CCV3 QC0606/07*** *Batch ID:* ***GC-1_981028*** *Test Code:* ***SW8020A*** *Units:* ***µg/Kg*** *Analysis Date* ***10/28/98*** *Prep Date:*
Client ID: **9810084** Run ID: **GC-1_981028A** SeqNo: **8185**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	59.68	1	60	0	99.5%	85	115				
Ethylbenzene	57.8	1	60	0	96.3%	85	115				
m,p-Xylene	114.7	2	120	0	95.6%	85	115				
o-Xylene	61.63	1	60	0	102.7%	85	115				
Toluene	59.42	2	60	0	99.0%	85	115				
1,4-Difluorobenzene	81.1	0	80	0	101.4%	70	130				
4-Bromochlorobenzene	91.36	0	80	0	114.2%	50	150				
Fluorobenzene	80.65	0	80	0	100.8%	70	130				

Sample ID: **CCV1 QC0606/07** Batch ID: **GC-1_981029** Test Code: **SW8020A** Units: **µg/Kg** Analysis Date **10/29/98** Prep Date:
Client ID: **9810084** Run ID: **GC-1_981029A** SeqNo: **8228**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	61.49	1	60	0	102.5%	85	115				
Ethylbenzene	61.47	1	60	0	102.5%	85	115				
m,p-Xylene	123.3	2	120	0	102.7%	85	115				
o-Xylene	61.46	1	60	0	102.4%	85	115				
Toluene	61.59	2	60	0	102.6%	85	115				
1,4-Difluorobenzene	81.43	0	80	0	101.8%	70	130				
4-Bromochlorobenzene	87.32	0	80	0	109.1%	50	150				
Fluorobenzene	80.71	0	80	0	100.9%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810084
Project: 4-1532

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: **CCV2 QC0606/07** Batch ID: **GC-1_981029** Test Code: **SW8020A** Units: **µg/Kg** Analysis Date **10/29/98** Prep Date:
Client ID: **9810084** Run ID: **GC-1_981029A** SeqNo: **8229**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	61.04	1	60	0	101.7%	85	115				
Ethylbenzene	61.54	1	60	0	102.6%	85	115				
m,p-Xylene	119.6	2	120	0	99.7%	85	115				
o-Xylene	59.64	1	60	0	99.4%	85	115				
Toluene	61.9	2	60	0	103.2%	85	115				
1,4-Difluorobenzene	82.17	0	80	0	102.7%	70	130				
4-Bromochlorobenzene	103.5	0	80	0	129.3%	50	150				
Fluorobenzene	81.34	0	80	0	101.7%	70	130				

Sample ID: **CCV3 QC0606/07** Batch ID: **GC-1_981029** Test Code: **SW8020A** Units: **µg/Kg** Analysis Date **10/30/98** Prep Date:
Client ID: **9810084** Run ID: **GC-1_981029A** SeqNo: **8221**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	57.2	1	60	0	95.3%	85	115				
Ethylbenzene	55.41	1	60	0	92.4%	85	115				
m,p-Xylene	109.5	2	120	0	91.3%	85	115				
o-Xylene	56.19	1	60	0	93.6%	85	115				
Toluene	56.9	2	60	0	94.8%	85	115				
1,4-Difluorobenzene	81.34	0	80	0	101.7%	70	130				
4-Bromochlorobenzene	82.79	0	80	0	103.5%	50	150				
Fluorobenzene	80.6	0	80	0	100.8%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 20-Nov-98

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9810084
Project: 4-1532
Test No: SW8020A

QC SUMMARY REPORT
SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9810068-02A	103	102	102					
9810069-01A	90	86.9	102					
9810070-02A	86.2	87.8	99.6					
9810070-05A	85.7	96.6	99.2					
9810070-06A	82.3	92.3	101					
9810070-07A	89.1	99.5	101					
9810070-08A	86.1	94.2	98.2					
9810071-04A	88.4	90	94.5					
9810071-06A	103	114	101					
9810072-01A	102	104	101					
9810072-01AMS	102	94.2	100					
9810072-01AMSD	101	94.1	100					
9810073-01A	81.7	80.3	96.3					
9810073-02A	103	107	102					
9810080-01A	103	110	102					
9810080-01AMS	101	100	100					
9810080-01AMSD	102	102	101					
9810082-01A	103	89.3	103					
9810084-01A	104	150	102					
CCV1 QC0606/07	102	109	101					
CCV2 QC0606/07	103	129	102					
CCV3 QC0606/07	102	103	101					
LCS SOIL	101	103	101					
MB1	103	112	102					

Acronym		Surrogate	QC Limits
14FBZ	=	1,4-Difluorobenzene	70-130
4BCBZ	=	4-Bromochlorobenzene	50-150
FLBZ	=	Fluorobenzene	70-130

*** Surrogate recovery outside acceptance limits**

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

11/11/98
15:13:53
Group: 24652

alysis Batch Number: 0259T-11/10/98-147 -1
Test Identification : 0259T-Mercury by CVAA, TCLP, 7470 Sequence : 0259T-1
mber of Samples : 18
tch Data-Date/Time : 11/10/98 / 15:05:36

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
W1-269	Mercury	0.0090	0.1000
W2-269-2	Mercury	0.0380	0.1000

IKE

MPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
24707-89065	Mercury	25.0000	-0.0800	22.8580	91.8	80.0	115.0
24707-89065-2	Mercury	25.0000	-0.0800	16.6930	67.1	50.0	150.0
24645-88838-3	Mercury	25.0000	0.1430	23.3770	92.9	50.0	150.0
24722-89323-4	Mercury	25.0000	0.5370	19.8250	77.2	50.0	150.0

D

MPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	QC LIMITS LOWER	QC LIMITS UPPER	RPD #	LIMIT
24707-89065	Mercury	25.0000	-0.0800	24.3530	97.7	80.0	115.0	6.3	20.0

PLICATE

SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
24707-89065	Mercury	-0.0800	-0.0780	2.5	20.0	1.00

NTROL

SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
SW-269	Mercury	2.5230	2.5000	100.9	80.0	115.0

CV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
V-	Mercury	3.0000	2.7510	91.7	90.0	110.0
CV--2	Mercury	5.0000	5.0280	100.6	80.0	120.0
CCV--3	Mercury	5.0000	4.9360	98.7	80.0	120.0
V--4	Mercury	5.0000	4.9430	98.9	80.0	120.0
V--5	Mercury	5.0000	4.9520	99.0	80.0	120.0
CCV--6	Mercury	5.0000	4.8960	97.9	80.0	120.0

CB#	ANALYTE	CONC FOUND #	CONC LIMIT
ICB-	Mercury	-0.0130	0.1000
CCB-	Mercury	0.0190	0.1000
B-	Mercury	-0.0380	0.1000
CB-	Mercury	-0.0270	0.1000
CCB-	Mercury	-0.0430	0.1000
B-	Mercury	-0.0710	0.1000

Groups & Samples

24638-88808	24645-88838	24652-88859	24698-89019	24707-89065	24707-89066	24707-89067	24707-89068
24707-89069	24716-89112	24716-89113	24716-89114	24716-89115	24722-89323	24771-89322	24771-89324
24772-89323	24777-89371	24784-89412					

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

11/11/98
15:13:53
Group: 24652

Analysis Batch Number: HREXT-11/09/98-114 -2
Test Identification : HREXT-Metals for hr TCLP, by ICP Sequence : DATQ313
Number of Samples : 16
Batch Data-Date/Time : 11/10/98 / 08:25:33

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
W1-738	Silver	0.0028	0.0030
	Arsenic	ND	0.0150
	Barium	0.0011	0.0020
	Cadmium	0.0001	0.0010
	Chromium	0.0031	0.0050
	Copper	0.0026	0.0050
	Lead	0.0038	0.0150
	Selenium	0.0123	0.0150
	Thallium	0.0042	0.0080
	Zinc	0.0135	0.0150
W2-738-2	Silver	0.0021	0.0030
	Arsenic	0.0005	0.0150
	Barium	0.0010	0.0020
	Cadmium	0.0001	0.0010
	Chromium	0.0005	0.0050
	Copper	0.0012	0.0050
	Lead	ND	0.0150
	Selenium	0.0045	0.0150
	Thallium	0.0070	0.0080
	Zinc	0.0105	0.0150

SPIKE

SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
24645-88838	Silver	0.1000	0.0001	0.0968	96.6	80.0	120.0
	Arsenic	5.0000	-0.0004	5.5839	111.7	80.0	120.0
	Barium	10.0000	1.2016	11.3403	101.4	80.0	120.0
	Cadmium	0.1000	0.0034	0.0906	87.2	80.0	120.0
	Chromium	0.5000	0.0046	0.4909	97.3	80.0	120.0
	Copper	0.5000	0.0070	0.4665	91.9	80.0	120.0
	Lead	0.5000	0.0358	0.4904	90.9	80.0	120.0
	Selenium	5.0000	0.0177	5.5746	111.1	80.0	120.0
	Thallium	0.2000	0.0105	0.1931	91.3	80.0	120.0
	Zinc	5.0000	0.1010	4.7961	93.9	80.0	120.0
24645-88838-2	Silver	0.1000	0.0001	0.0975	97.4	80.0	120.0
	Arsenic	5.0000	-0.0004	5.6541	113.1	80.0	120.0
	Barium	10.0000	1.2016	11.3479	101.5	80.0	120.0
	Cadmium	0.1000	0.0034	0.0981	94.7	80.0	120.0
	Chromium	0.5000	0.0046	0.4926	97.6	80.0	120.0
	Copper	0.5000	0.0070	0.5086	100.3	80.0	120.0
	Lead	0.5000	0.0358	0.5047	93.8	80.0	120.0
	Selenium	5.0000	0.0177	5.4450	108.5	80.0	120.0
	Thallium	0.2000	0.0105	0.1980	93.7	80.0	120.0
	Zinc	5.0000	0.1010	4.8122	94.2	80.0	120.0
24707-89065-3	Silver	0.1000	0.0015	0.0972	95.6	80.0	120.0
	Arsenic	5.0000	0.0005	5.3364	106.7	80.0	120.0
	Barium	10.0000	0.2850	10.1754	98.9	80.0	120.0
	Cadmium	0.1000	0.0058	0.1015	95.8	80.0	120.0
	Chromium	0.5000	0.0018	0.4905	97.7	80.0	120.0
	Copper	0.5000	0.0165	0.4918	95.1	80.0	120.0
	Lead	0.5000	0.0401	0.5322	98.4	80.0	120.0

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

11/11/98
15:13:54
Group: 24652

alysis Batch Number: HREXT-11/09/98-114 -2
Test Identification : HREXT-Metals for hr TCLP, by ICP Sequence : DATQ313
mber of Samples : 16
tch Data-Date/Time : 11/10/98 / 08:25:33

SPIKE

MPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
24707-89065-3	Selenium	5.0000	0.0117	5.3081	105.9	80.0	120.0
	Thallium	0.2000	-0.0004	0.2089	104.6	80.0	120.0
	Zinc	5.0000	0.0787	4.9622	97.7	80.0	120.0

MSD

MPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	QC LIMITS LOWER	QC LIMITS UPPER	RPD #	LIMIT
645-88838	Silver	0.1000	0.0001	0.0966	96.5	80.0	120.0	0.2	20.0
	Arsenic	5.0000	-0.0004	5.7015	114.0	80.0	120.0	2.1	20.0
	Barium	10.0000	1.2016	11.5691	103.7	80.0	120.0	2.0	20.0
	Cadmium	0.1000	0.0034	0.0929	89.4	80.0	120.0	2.5	20.0
	Chromium	0.5000	0.0046	0.4892	96.9	80.0	120.0	0.3	20.0
	Copper	0.5000	0.0070	0.4803	94.7	80.0	120.0	2.9	20.0
	Lead	0.5000	0.0358	0.4930	91.4	80.0	120.0	0.5	20.0
	Selenium	5.0000	0.0177	5.6156	112.0	80.0	120.0	0.7	20.0
	Thallium	0.2000	0.0105	0.1948	92.1	80.0	120.0	0.9	20.0
	Zinc	5.0000	0.1010	4.8154	94.3	80.0	120.0	0.4	20.0

DUPLICATE

SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
645-88838	Silver	0.0001	0.0033	186.0(5a)	20.0	1.00
	Arsenic	-0.0004	0.0070	221.1(11)	20.0	1.00
	Barium	1.2016	1.2095	0.7	20.0	1.00
	Cadmium	0.0034	0.0035	1.2	20.0	1.00
	Chromium	0.0046	0.0046	1.5	20.0	1.00
	Copper	0.0070	0.0044	45.7(5a)	20.0	1.00
	Lead	0.0358	0.0410	13.4	20.0	1.00
	Selenium	0.0177	0.0156	12.6	20.0	1.00
	Thallium	0.0105	0.0000	200.0(5a)	20.0	1.00
	Zinc	0.1010	0.0922	9.1	20.0	1.00

ONTROL

SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
LCSW-738	Silver	0.0972	0.1000	97.2	80.0	120.0
	Arsenic	5.3134	5.0000	106.3	80.0	120.0
	Barium	10.3736	10.0000	103.7	80.0	120.0
	Cadmium	0.0925	0.1000	92.5	80.0	120.0
	Chromium	0.4987	0.5000	99.7	80.0	120.0
	Copper	0.4665	0.5000	93.3	80.0	120.0
	Lead	0.4997	0.5000	99.9	80.0	120.0
	Selenium	5.2727	5.0000	105.5	80.0	120.0
	Thallium	0.2077	0.2000	103.9	80.0	120.0
	Zinc	5.0410	5.0000	100.8	80.0	120.0

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
ICV-	Silver	0.1000	0.1012	101.2	90.0	110.0
	Arsenic	0.4000	0.4296	107.4	90.0	110.0
	Barium	1.0000	1.0044	100.4	90.0	110.0
	Cadmium	1.0000	0.9912	99.1	90.0	110.0

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

11/11/98
15:13:54
Group: 24652

Analysis Batch Number: HREXT-11/09/98-114 -2
Test Identification : HREXT-Metals for hr TCLP, by ICP Sequence : DATQ313
Number of Samples : 16
Batch Data-Date/Time : 11/10/98 / 08:25:33

QC #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
ICV-	Chromium	1.0000	1.0257	102.6	90.0	110.0
	Copper	1.0000	0.9759	97.6	90.0	110.0
	Lead	5.0000	5.1598	103.2	90.0	110.0
	Selenium	0.4000	0.4277	106.9	90.0	110.0
	Thallium	1.0000	1.0390	103.9	90.0	110.0
	Zinc	1.0000	1.0032	100.3	90.0	110.0
ICV1--2	Silver	0.1000	0.1014	101.4	90.0	110.0
	Arsenic	0.4000	0.4155	103.9	90.0	110.0
	Barium	1.0000	0.9862	98.6	90.0	110.0
	Cadmium	1.0000	0.9616	96.2	90.0	110.0
	Chromium	1.0000	1.0184	101.8	90.0	110.0
	Copper	1.0000	0.9599	96.0	90.0	110.0
	Lead	5.0000	5.0975	101.9	90.0	110.0
	Selenium	0.4000	0.4113	102.8	90.0	110.0
	Thallium	1.0000	1.0245	102.5	90.0	110.0
	Zinc	1.0000	0.9793	97.9	90.0	110.0
ICV2--3	Silver	0.1000	0.1009	100.9	90.0	110.0
	Arsenic	0.4000	0.4238	106.0	90.0	110.0
	Barium	1.0000	1.0190	101.9	90.0	110.0
	Cadmium	1.0000	0.9951	99.5	90.0	110.0
	Chromium	1.0000	1.0129	101.3	90.0	110.0
	Copper	1.0000	0.9813	98.1	90.0	110.0
	Lead	5.0000	5.1061	102.1	90.0	110.0
	Selenium	0.4000	0.4190	104.7	90.0	110.0
	Thallium	1.0000	1.0194	101.9	90.0	110.0
	Zinc	1.0000	1.0081	100.8	90.0	110.0
ICV3--4	Silver	0.1000	0.0987	98.7	90.0	110.0
	Arsenic	0.4000	0.4192	104.8	90.0	110.0
	Barium	1.0000	1.0034	100.3	90.0	110.0
	Cadmium	1.0000	0.9820	98.2	90.0	110.0
	Chromium	1.0000	1.0036	100.4	90.0	110.0
	Copper	1.0000	0.9673	96.7	90.0	110.0
	Lead	5.0000	5.0365	100.7	90.0	110.0
	Selenium	0.4000	0.4191	104.8	90.0	110.0
	Thallium	1.0000	1.0087	100.9	90.0	110.0
	Zinc	1.0000	1.0001	100.0	90.0	110.0
ICV4--5	Silver	0.1000	0.0990	99.0	90.0	110.0
	Arsenic	0.4000	0.4328	108.2	90.0	110.0
	Barium	1.0000	1.0210	102.1	90.0	110.0
	Cadmium	1.0000	0.9947	99.5	90.0	110.0
	Chromium	1.0000	1.0041	100.4	90.0	110.0
	Copper	1.0000	0.9405	94.1	90.0	110.0
	Lead	5.0000	5.2365	104.7	90.0	110.0
	Selenium	0.4000	0.4251	106.3	90.0	110.0
	Thallium	1.0000	1.0232	102.3	90.0	110.0
	Zinc	1.0000	1.0210	102.1	90.0	110.0

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

11/11/98
15:13:54
Group: 24652

Analysis Batch Number: HREXT-11/09/98-114 -2
Test Identification : HREXT-Metals for hr TCLP, by ICP
Sequence : DATQ313
Number of Samples : 16
Batch Data-Date/Time : 11/10/98 / 08:25:33

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
[redacted]3-	Silver	0.0007	0.0030
	Arsenic	0.0003	0.0150
	Barium	0.0004	0.0020
	Cadmium	ND	0.0010
	Chromium	ND	0.0050
	Copper	0.0003	0.0050
	Lead	ND	0.0150
	Selenium	0.0093	0.0150
	Thallium	0.0028	0.0080
	Zinc	ND	0.0150
[redacted]B1-	Silver	0.0005	0.0030
	Arsenic	ND	0.0150
	Barium	0.0001	0.0020
	Cadmium	ND	0.0010
	Chromium	0.0001	0.0050
	Copper	ND	0.0050
	Lead	ND	0.0150
	Selenium	ND	0.0150
	Thallium	0.0006	0.0080
	Zinc	ND	0.0150
[redacted]B2-	Silver	0.0007	0.0030
	Arsenic	ND	0.0150
	Barium	0.0001	0.0020
	Cadmium	0.0001	0.0010
	Chromium	ND	0.0050
	Copper	ND	0.0050
	Lead	ND	0.0150
	Selenium	ND	0.0150
	Thallium	0.0013	0.0080
	Zinc	ND	0.0150
[redacted]B3-	Silver	0.0008	0.0030
	Arsenic	ND	0.0150
	Barium	0.0005	0.0020
	Cadmium	ND	0.0010
	Chromium	ND	0.0050
	Copper	0.0003	0.0050
	Lead	0.0010	0.0150
	Selenium	0.0077	0.0150
	Thallium	0.0038	0.0080
	Zinc	0.0002	0.0150
[redacted]B4-	Silver	0.0009	0.0030
	Arsenic	ND	0.0150
	Barium	0.0005	0.0020
	Cadmium	0.0000	0.0010
	Chromium	ND	0.0050
	Copper	0.0002	0.0050
	Lead	ND	0.0150
	Selenium	0.0072	0.0150
	Thallium	0.0015	0.0080
	Zinc	ND	0.0150

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

11/11/98
15:13:54
Group: 24652

alysis Batch Number: HREXT-11/09/98-114 -2
Test Identification : HREXT-Metals for hr TCLP, by ICP Sequence : DATQ313
mber of Samples : 16
tch Data-Date/Time : 11/10/98 / 08:25:33

---------- Result Footnotes ----------
a) - Duplicates not evaluated: Results are <10x detection limit
(1) - The duplicate results cannot be evaluated because both results are <MDL.

Groups & Samples

24638-88808	24645-88838	24652-88859	24698-89019	24707-89065	24707-89066	24707-89067	24707-89068
24707-89069	24716-89112	24716-89113	24716-89114	24716-89115	24739-89195	24771-89322	24771-89324

14C2

On Site Technologies, LTD.
612 E. Murray Drive
Farmington, NM 87401
(505) 325-2432

CHAIN-OF-CUSTODY RECORD

Subcontractor:
Mountain States Analytical, Inc.
1645 West 2200 South
Salt Lake City, UT 84119

TEL: (800) 973-6724
FAX: (801) 972-6278
Acct #:

28-Oct-98

Sample ID	Matrix	Collection Date	Bottle Type	Requested Tests						
				SW1010	SW1311	SW1311/6010A	SW3010A	SW7470	SW9045B	SW7.3.3.2/7.3.4.2
9810084-01B	Soil	10/27/98 11:00:00 PM		1	1	1	1	1	1	1

Comments: Please analyze one (1) soil sample for TCLP Metals, Reactivity(Cyanide&Sulfide), Corrosivity and Ignitability.

		Date/Time			Date/Time
Relinquished by:		10/28/98 1610	**Received by:**		10/29/98 1000
Relinquished by:			**Received by:**		

55[illegible]

CHAIN OF CUSTODY RECORD

ON SITE TECHNOLOGIES, LTD.
657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Date: 10/28/98

Purchase Order No.:	Job No. 4-1532
SEND INVOICE TO Name	
Company	Dept.
Address	
City, State, Zip	
REPORT RESULTS TO Name	Cindy Gray
Title	
Company	in house
Mailing Address	
City, State, Zip	
Telephone No.	Telefax No.
Sampling Location:	State Road 539, DeLosso Loop Road Spill 6 Pt. Composite "Worst Case" Soils Stockpile
Sampler:	C Shelton Gray

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	8020	8015 M DRO/GRO	RCRA TCLP Metals Only	R. C. I.						LAB ID
"Worst Case" Soils Stockpile 6 Pt Comp.	10/27	2300	Soil	Cool	4	✓	✓	✓	✓						[illegible]

Relinquished by: [signature]	Date/Time 10/28/98 1330	Received by: Heidi Reese [illegible]	Date/Time 10/28/98 1330
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time
Method of Shipment:		Rush / 24-48 Hours / 10 Working Days	Special Instructions:

Authorized by: [signature] Date 10/28/98
(Client Signature Must Accompany Request)

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *16-Nov-98*

Client:	On Site Technologies, Limited Partnership	**Client Sample Info:**	Delasso Loop Spill
Work Order:	9811006	**Client Sample ID:**	S-22 ES 3pt. Comp Sec. Contnm.
Lab ID:	9811006-01A **Matrix:** SOIL	**Collection Date:**	10/30/98 3:16:00 PM
Project:	4-1532	**COC Record:**	5591

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		**SW8015**				Analyst: **HR**
T/R Hydrocarbons: C10-C28	130	25		mg/Kg	1	11/11/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *16-Nov-98*

Client:	On Site Technologies, Limited Partnership	**Client Sample Info:**	Delasso Loop Spill
Work Order:	9811006	**Client Sample ID:**	S-23 WS 2pt. Comp Sec. Contnm.
Lab ID:	9811006-02A **Matrix:** SOIL	**Collection Date:**	10/30/98 3:20:00 PM
Project:	4-1532	**COC Record:**	5591

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		**SW8015**				Analyst: **HR**
T/R Hydrocarbons: C10-C28	100	25		mg/Kg	1	11/11/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

On Site Technologies, LTD.

Date: *16-Nov-98*

CLIENT: *On Site Technologies, Limited Partnership*
Work Order: 9811006
Project: 4-1532

QC SUMMARY REPORT
Method Blank

Sample ID: **MB1** Batch ID: **GC-2_981111** Test Code: **SW8015** Units: ***mg/Kg*** Analysis Date **11/11/98** Prep Date: **11/10/98**

Client ID: **9811006** Run ID: **GC-2_981111A** SeqNo: **8630**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	ND	25									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *16-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9811006
Project: 4-1532

QC SUMMARY REPORT

Sample Duplicate

Sample ID: **9811003-01AD** Batch ID: **GC-2_981111** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/12/98** Prep Date: **11/11/98**

Client ID: **9811006** Run ID: **GC-2_981111A** SeqNo: **8652**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	299.8	25	0	0	0.0%	0	0	357.6	17.6%	15	R

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *16-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9811006
Project: 4-1532

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **9811018-01AMS** Batch ID: **GC-2_981111** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/11/98** Prep Date: **11/11/98**

Client ID: **9811006** Run ID: **GC-2_981111A** SeqNo: **8651**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	411	25	501.9	0	81.9%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *16-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9811006
Project: 4-1532

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: **LCS Soil** Batch ID: **GC-2_981111** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/11/98** Prep Date: **11/10/98**

Client ID: **9811006** Run ID: **GC-2_981111A** SeqNo: **8632**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	446.5	25	501.9	0	89.0%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *16-Nov-98*

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9811006
Project: 4-1532

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: **CCV1 DRO_98110** Batch ID: **GC-2_981111** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/11/98** Prep Date:
Client ID: **9811006** Run ID: **GC-2_981111A** SeqNo: **8631**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	455.5	25	501.9	0	90.8%	85	115				

Sample ID: **CCV2 DRO_98110** Batch ID: **GC-2_981111** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/11/98** Prep Date:
Client ID: **9811006** Run ID: **GC-2_981111A** SeqNo: **8655**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	433.5	25	501.9	0	86.4%	85	115				

Sample ID: **CCV3 DRO_98110** Batch ID: **GC-2_981111** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/12/98** Prep Date:
Client ID: **9811006** Run ID: **GC-2_981111A** SeqNo: **8656**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	420.3	25	501.9	0	83.7%	85	115				S

Sample ID: **CCV4 DRO_98110** Batch ID: **GC-2_981111** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/12/98** Prep Date:
Client ID: **9811006** Run ID: **GC-2_981111A** SeqNo: **8657**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	513.7	25	501.9	0	102.4%	85	115				

Sample ID: **CCV5 DRO_98110** Batch ID: **GC-2_981111** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **11/12/98** Prep Date:
Client ID: **9811006** Run ID: **GC-2_981111A** SeqNo: **8658**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	474.8	25	501.9	0	94.6%	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CHAIN OF CUSTODY RECORD

5591

Date: 10/30/93 Page 1 of 1

ON SITE TECHNOLOGIES, LTD.
657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Purchase Order No.: | Job No. 4-1322

SEND INVOICE TO
Name: Larry Trujillo
Company: Four-Four Inc. | Dept.:
Address:
City, State, Zip:

REPORT RESULTS TO
Name: Larry Trujillo | Title:
Company: Four-Four Inc.
Mailing Address:
City, State, Zip:
Telephone No.: | Telefax No.:

Sampling Location: Dolores Loop Spill

Sampler:

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	TPH								LAB ID
[illegible] 2 ft. Comp. Sec. Containment	10/29/93	1510	Soil	None	1	✓								[illegible]
[illegible] 2 ft. Comp. Sec. Containment	"	1520	"	None	1	✓								[illegible]

Relinquished by: [signature]	Date/Time 10/29/93 1700	Received by: [signature]	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

Authorized by: ________ Date ________
(Client Signature Must Accompany Request)

Rush	24-48 Hours	10 Working Days	Special Instructions:

Distribution: White – On Site Yellow – LAB Pink – Sampler Goldenrod – Client

person in charge of the facility shall notify the Chief of the Ground Water Protection and Remediation Bureau of the department. If that department does not have authority pursuant to commission delegation, the department shall notify the appropriate constituent agency. [12-24-87, 12-1-95]

3. Within one week after the discharger has learned of the discharge, the facility owner and/or operator shall send written notification to the same department official, verifying the prior oral notification as to each of the foregoing items and providing any appropriate additions or corrections to the information contained in the prior oral notification. [12-24-87]

4. The oral and written notification and reporting requirements contained in this Subsection A are not intended to be duplicative of discharge notification and reporting requirements promulgated by the Oil Conservation Commission (OCC) or by the Oil Conservation Division (OCD); therefore, any facility which is subject to OCC or OCD discharge notification and reporting requirements need not additionally comply with the notification and reporting requirements herein. [2-17-74, 12-24-87]

5. As soon as possible after learning of such a discharge, the owner/operator of the facility shall take such corrective actions as are necessary or appropriate to contain and remove or mitigate the damage caused by the discharge. [2-17-74, 12-24-87]

6. If it is possible to do so without unduly delaying needed corrective actions, the facility owner/operator shall endeavor to contact and consult with the Chief of the Ground Water Protection and Remediation Bureau of the department or appropriate counterpart in a delegated agency, in an effort to determine the department's views as to what further corrective actions may be necessary or appropriate to the discharge in question. In any event, no later than fifteen (15) days after the discharger learns of the discharge, the facility owner/operator shall send to said Bureau Chief a written report describing any corrective actions taken and/or to be taken relative to the discharge. Upon a written request and for good cause shown, the Bureau Chief may extend the time limit beyond fifteen (15) days. [12-24-87, 12-1-95]

7. The Bureau Chief shall approve or disapprove in writing the foregoing corrective action report within thirty (30) days of its receipt by the department. In the event that the report is not satisfactory to the department, the Bureau Chief shall specify in writing to the facility owner/operator any shortcomings in the report or in the corrective actions already taken or proposed to be taken relative to the discharge, and shall give the facility owner/operator a reasonable and clearly specified

time within which to submit a modified corrective action report. The Bureau Chief shall approve or disapprove in writing the modified corrective action report within fifteen (15) days of its receipt by the department. [12-24-87]

8. In the event that the modified corrective action report also is unsatisfactory to the department, the facility owner/operator has five (5) days from the notification by the Bureau Chief that it is unsatisfactory to appeal to the department secretary. The department secretary shall approve or disapprove the modified corrective action report within five (5) days of receipt of the appeal from the Bureau Chief's decision. In the absence of either corrective action consistent with the approved corrective action report or with the decision of the secretary concerning the shortcomings of the modified corrective action report, the department may take whatever enforcement or legal action it deems necessary or appropriate. [12-24-87, 12-1-95]

9. If the secretary determines that the discharge causes or may with reasonable probability cause water pollution in excess of the standards and requirements of Section 4103 of this Part, and the water pollution will not be abated within one hundred and eighty (180) days after notice is required to be given pursuant to Section 1203.A.1 of this Part, the secretary may notify the facility owner/operator that he is a responsible person and that an abatement plan may be required pursuant to Sections 4104 and 4106.A of this Part. [12-1-95]

B. Exempt from the requirements of this Section are continuous or periodic discharges which are made: [2-17-74]

1. in conformance with regulations of the commission and rules, regulations or orders of other state or federal agencies; or [2-17-74]

2. in violation of regulations of the commission, but pursuant to an assurance of discontinuance or schedule of compliance approved by the commission or one of its duly authorized constituent agencies. [2-17-74]

C. As used in this Section and in Sections 4100 through 4115, but not in other Sections of this Part: [2-17-74, 12-1-95]

1. "discharge" means spilling, leaking, pumping, pouring, emitting, emptying, or dumping into water or in a location and manner where there is a reasonable probability that the discharged substance will reach surface or subsurface water; [2-17-74]

2. "facility" means any structure, installation, operation, storage tank, transmission line, motor vehicle, rolling

stock, or activity of any kind, whether stationary or mobile; [2-17-74]

3. "oil" means oil of any kind or in any form including petroleum, fuel oil, sludge, oil refuse and oil mixed with wastes; [2-17-74]

4. "operator" means the person or persons responsible for the overall operations of a facility; and [12-24-87]

5. "owner" means the person or persons who own a facility, or part of a facility. [12-24-87]

D. Notification of discharge received pursuant to this Part or information obtained by the exploitation of such notification shall not be used against any such person in any criminal case, except for perjury or for giving a false statement. [2-17-74]

E. Any person who has any information relating to any discharge from any facility of oil or other water contaminant, in such quantity as may with reasonable probability injure or be detrimental to human health, animal or plant life, or property, or unreasonably interfere with the public welfare or the use of property, is urged to notify the Chief of the Ground Water Protection and Remediation Bureau of the department. Upon such notification, the secretary may require an owner/operator or a responsible person to perform corrective actions pursuant to Sections 1203.A.5 or 1203.A.9 of this Part. [12-1-95]

[1204-1209] Reserved

1210. VARIANCE PETITIONS.

A. Any person seeking a variance pursuant to Section 74-6-4 (G) NMSA 1978, shall do so by filing a written petition with the commission. The petitioner may submit with his petition any relevant documents or material which the petitioner believes would support his petition. Petitions shall: [7-19-68, 11-27-70, 9-3-72]

1. state the petitioner's name and address; [7-19-68, 11-27-70]

2. state the date of the petition; [7-19-68]

3. describe the facility or activity for which the variance is sought; [7-19-68, 11-27-70]

4. state the address or description of the property upon which the facility is located; [11-27-70]

May 31, 1990

USA and WORLDWIDE

Material Safety Data Sheet

DIESEL FUEL NO. 1

PHILLIPS 66 COMPANY
A Division of Phillips Petroleum Company
Bartlesville, Oklahoma 74004

PHONE NUMBERS
Emergency:
Business Hours (918) 661-3865
After Hours (918) 661-8118
General MSDS Information:
(918) 661-8327
For Additional MSDSs: (918) 661-5952

A. Product Identification

Synonyms: Aviation Turbine Fuel A; KTF; Kerosine Turbine Fuel; Kerosine; Diesel Fuel No. 1.
Chemical Name: Mixture
Chemical Family: Hydrocarbon
Chemical Formula: Mixture
CAS Reg. No.: 8008-20-6
Product No.: 35150

Product and/or Components Entered on EPA's TSCA Inventory: YES

This product has been commercially introduced into U.S. commerce, and is listed in the Toxic Substances Control Act (TSCA) Inventory of Chemicals in Commerce; hence, it is subject to all applicable provisions and restrictions under TSCA 40 CFR, section 721 and 723.250.

B. Hazardous Components

Ingredients	CAS Number	% By Wt.	OSHA PEL	ACGIH TLV
Paraffinic Hydrocarbons,	Various	approx 50	NE	NE
includes,n-Octane	111-65-9	approx 1.0	300 ppm	300 ppm
n-Nonane	111-84-2	approx 3.0	200 ppm	200 ppm
Naphthenes	Various	approx 33.0	NE	NE
Aromatic Hydrocarbons, includes	Various	approx 17.0	NE	NE
Benzene	71-43-2	approx 0.8	10 ppm*	10 ppm
Toluene	108-88-3	approx 1.0	100 ppm	100 ppm
p-Xylene	106-42-3	approx 1.0	100 ppm	100 ppm
m-Xylene	108-38-3	approx 3.0	100 ppm	100 ppm
o-Xylene	95-47-6	approx 1.4	100 ppm	100 ppm
1,3,5-Trimethylbenzene	108-67-8	approx 1.4	25 ppm	25 ppm**
1,2,4-Trimethylbenzene	95-63-6	approx 3.8	25 ppm	25 ppm**
1,2,3-Trimethylbenzene	526-73-8	approx 1.0	25 ppm	25 ppm**

* Operations covered by the Benzene Standard, 29 CFR 1910.1028, will have a 1 ppm 8 hour TWA and a 5 ppm STEL.
** For Trimethylbenzene

NA - Not Applicable NE - Not Established

C. Personal Protection Information

Ventilation:	Use adequate ventilation to control below recommended exposure levels.
Respiratory Protection:	For concentrations exceeding the recommended exposure level, use NIOSH/MSHA approved air purifying respirator. In case of spill or leak resulting in unknown concentration, use NIOSH/MSHA approved supplied air respirator. If conditions immediately dangerous to life or health (IDLH) exist, use NIOSH/MSHA approved self-contained breathing apparatus (SCBA).
Eye Protection:	Use safety glasses with side shields.
Skin Protection:	When entry into or exit from concentrations of unknown exposure, use NIOSH/MSHA approved self-contained breathing apparatus (SCBA). Use protective garments to prevent excessive skin contact.

NOTE: Personal protection information shown in Section C is based upon general information as to normal uses and conditions. Where special or unusual uses or conditions exist, it is suggested that the expert assistance of an industrial hygienist or other qualified professional be sought.

D. Handling and Storage Precautions

Do not get in eyes, on skin or on clothing. Do not breathe vapors. Wear protective equipment and/or garments described in Section C if exposure conditions warrant. Wash thoroughly after handling. Launder contaminated clothing before reuse.

Store in a cool, well-ventilated area away from ignition sources. Provide means of controlling leaks and spills. Bond and ground during liquid transfer. Keep containers closed.

E. Reactivity Data

Stability:	Stable
Conditions to Avoid:	Not Applicable
Incompatibility (Materials to Avoid):	Oxygen and strong oxidizing agents
Hazardous Polymerization:	Will Not Occur
Conditions to Avoid:	Not Applicable
Hazardous Decomposition Products:	Carbon oxides and various hydrocarbons formed when burned.

F. Health Hazard Data

Recommended Exposure Limits:

See Section B.

Acute Effects of Overexposure:

Eye: Slight eye irritancy.

Skin: Slight skin irritancy. Repeated skin contact may cause severe skin irritation.

Inhalation: May cause headache, nausea and sedation.

Ingestion: May be irritating to intestines. May be aspirated into lungs if swallowed, which may result in pulmonary edema and chemical pneumonitis.

Subchronic and Chronic Effects of Overexposure:

Jet fuel has produced kidney damage in laboratory animals. No comparable kidney damage is known in humans. May cause blood changes possibly leading to aplastic anemia. May cause liver damage.

Other Health Effects:

Combustion, a normal use of diesel fuel, results in an exhaust that has been associated with lung cancer in animals. There is limited evidence to suggest an association between occupational exposure to diesel exhaust and lung cancer in humans.

Jet Fuels generally contain Benzene which has been designated a carcinogen by NTP, IARC and OSHA. Benzene may produce blood changes which include reduced platelets, reduced red blood cells, reduced white blood cells, aplastic anemia, and acute nonlymphotic leukemia. Benzene has produced fetal death in laboratory animals and caused chromosome changes in humans and mutation changes in cells of other organisms. Health effects attributable to Benzene are not known to occur in humans exposed to jet fuels.

Health Hazard Categories:

	Animal	Human		Animal	Human
Known Carcinogen	___	___	Toxic	___	___
Suspect Carcinogen	___	___	Corrosive	___	___
Mutagen	___	___	Irritant	___	___
Teratogen	___	___	Target Organ Toxin	_X_	_X_
Allergic Sensitizer	___	___	Specify - Lungs-Aspiration Hazard; Blood & Liver Toxin; Kidney Toxin-Animals		
Highly Toxic	___	___			

First Aid and Emergency Procedures:

Eye: Flush eyes with running water for at least fifteen minutes.

Skin: Wash with soap and water. If irritation develops, seek medical attention.

Inhalation: Remove from exposure.

Ingestion: Do not induce vomiting. Seek immediate medical assistance.

Note to Physician: Gastric lavage using a cuffed endotracheal tube may be performed at your discretion.

G. Physical Data

Appearance:	Colorless Liquid
Odor:	Mild
Boiling Point:	300-572F (149-300C)
Vapor Pressure:	<1
Vapor Density (Air = 1):	Not Established
Solubility in Water:	Negligible
Specific Gravity (H2O = 1):	0.775-0.840
Percent Volatile by Volume:	100
Evaporation Rate (Ethyl Ether = 1):	<1
Viscosity:	8cSt at -4F (-20C)(Max.)

H. Fire and Explosion Data

Flash Point (Method Used):	100-150F (38-66C) (TCC, ASTM D56)
Flammable Limits (% by Volume in Air):	LEL - Not Established UEL - Not Established
Fire Extinguishing Media:	Dry chemical, foam or carbon dioxide (CO2)
Special Fire Fighting Procedures:	Evacuate area of all unnecessary personnel. Shut off source, if possible. Wear appropriate safety equipment for fire fighting conditions including NIOSH/MSHA approved self-contained apparatus (SCBA). Water fog or spray may be used to cool exposed containers and equipment. Do not spray water directly on fire product will float and could be reignited on surface of water.
Fire and Explosion Hazards:	Carbon oxides and various hydrocarbons formed when burned. Combustible vapors may accumulate and flash or explode if in contact with ignition source.

I. Spill, Leak and Disposal Procedures

Precautions Required if Material is Released or Spilled:
Evacuate area of all unnecessary personnel. Wear protective equipment and/or garments described in Section C if exposure conditions warrant. In case of spill or leak resulting in unknown concentration, use NIOSH/MSHA approved supplied air respirator. Shut off source, if possible and contain spill. Protect from ignition. Keep out of water sources and sewers. Absorb in a dry, inert material. Transfer to disposal drums using non-sparking equipment.

Waste Disposal (Insure Conformity with all Applicable Disposal Regulations):
Incinerate or otherwise manage at a RCRA permitted waste management facility.

J. DOT Transportation

Shipping Name: Fuel, Aviation, Turbine Engine
Hazard Class: Combustible Liquid
ID Number: UN 1863
Marking: 1863 on bulk containers (greater than 110 gallons)
Label: None
Placard: Combustible or Flammable
Hazardous Substance/RQ: Not Applicable
Shipping Description: Fuel, Aviation, Turbine Engine, Combustible Liquid, UN 1863
Packaging References: 49 CFR 173.118a; must also comply with 173.24

Note: The above information is applicable only when the product is shipped in containers larger than 110 gallons. Smaller quantities are not regulated.

K. RCRA Classification - Unadulterated Product as a Waste

Ignitable (D001)

L. Protection Required for Work on Contaminated Equipment

Contact immediate supervisor for specific instructions before work is initiated. Wear protective equipment and/or garments described in Section C if exposure conditions warrant.

M. Hazard Classification

_X_ This product meets the following hazard definition(s) as defined by the Occupational Safety and Health Hazard Communication Standard (29 CFR Section 1910.1200):

_X_ Combustible Liquid	___ Flammable Aerosol	___ Oxidizer
___ Compressed Gas	___ Explosive	___ Pyrophoric
___ Flammable Gas	_X_ Health Hazard (Section F)	___ Unstable
___ Flammable Liquid	___ Organic Peroxide	___ Water Reactive
___ Flammable Solid		

___ Based on information presently available, this product does not meet any of the hazard definitions of 29 CFR Section 1910.1200.

N. *Additional Comments*

This product contains the following chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372, (see Section B):

Benzene
Toluene
p-Xylene
o-Xylene
m-Xylene
1,2,4-Trimethylbenzene

Toxicity Study Summaries are available for Toluene and ortho Xylene upon request.

C.

USA and WORLDWIDE

Material Safety Data Sh

Resp

DUAL PURPOSE FUEL OIL

NOTI

PHILLIPS 66 COMPANY
A Division of Phillips Petroleum Company
Bartlesville, Oklahoma 74004

PHONE NUMBERS
Emergency:
Business Hours (918) 66
After Hours (918) 66
General MSDS Information:
(918) 66
For Additional MSDSs: (918) 66

D.

A. Product Identification

Synonyms: Fuel Oil No. 2
Chemical Name: Mixture
Chemical Family: Hydrocarbon
Chemical Formula: Mixture
CAS Reg. No.: 68476-30-2
Product No.: 34360

Product and/or Components Entered on EPA's TSCA Inventory: YES

E.

This product is in U.S. commerce, and is listed in the Toxic Substances Control Act (TSCA) Inventory of Chemicals; hence, it is subject to all applicable provisions and restrictions of 40 CFR, section 721 and 723.250.

Inc.

B. Hazardous Components

Ingredients	CAS Number	% By Wt.	OSHA PEL	ACGIH TLV
Fuel Oil No. 2	68476-30-2	100	5 mg/m3*	5 mg/m3*

* As oil mist.

NA - Not Applicable NE - Not Established

C. Personal Protection Information

Ventilation:	Use adequate ventilation to control exposure below recommended levels.
Respiratory Protection:	For concentrations exceeding the recommended exposure level, use NIOSH/MSHA approved air purifying respirator. In case of spill or leak resulting in unknown concentration, use NIOSH/MSHA approved supplied air respirator.
Eye Protection:	Use chemical goggles for splash protection.
Skin Protection:	No special garments required. Avoid unnecessary skin contamination with material. Use impervious gloves.

NOTE: Personal protection information shown in Section C is based upon general information as to normal uses and conditions. Where special or unusual uses or conditions exist, it is suggested that the expert assistance of an industrial hygienist or other qualified professional be sought.

D. Handling and Storage Precautions

Avoid inhalation and skin and eye contact. Wear protective equipment and/or garments described in Section C if exposure conditions warrant. Wash hands after handling. Launder contaminated clothing before reuse.

Store in a cool, well-ventilated area away from ignition sources. Provide means of controlling leaks and spills. Bond and ground during liquid transfer. Keep containers closed.

E. Reactivity Data

Stability:	Stable
Conditions to Avoid:	Not Applicable
Incompatibility (Materials to Avoid):	Oxygen and strong oxidizing materials
Hazardous Polymerization:	Will Not Occur
Conditions to Avoid:	Not Applicable
Hazardous Decomposition Products:	Carbon oxides and various hydrocarbons formed when burned.

F. Health Hazard Data

Recommended Exposure Limits:

See Section B.

Acute Effects of Overexposure:

Eye: May cause slight irritation.

Skin: May cause slight irritation.

Inhalation: May cause headache, nausea, dizziness, unconsciousness.

Ingestion: May cause slight irritation to stomach or intestines. May cause nausea, headache and unconsciousness. May be aspirated into lungs if swallowed resulting in pulmonary edema and chemical pneumonitis.

Subchronic and Chronic Effects of Overexposure:

No known applicable information.

Other Health Effects:

Combustion, a normal use of diesel fuel, results in an exhaust that has been associated with lung cancer in animals. There is limited evidence to suggest an association between occupational exposure to diesel exhaust and lung cancer in humans.

Long term exposure to high oil mist concentrations may cause non-debilitating lung changes.

Health Hazard Categories:

	Animal	Human		Animal	Human
Known Carcinogen	___	___	Toxic	___	___
Suspect Carcinogen	___	___	Corrosive	___	___
Mutagen	___	___	Irritant	___	___
Teratogen	___	___	Target Organ Toxin	_X_	_X_
Allergic Sensitizer	___	___	Specify - Lung-Aspiration Hazard		
Highly Toxic	___	___			

First Aid and Emergency Procedures:

Eye: Flush eyes with running water for at least 15 minutes.

Skin: Wash with soap and water.

Inhalation: Remove from exposure.

Ingestion: Do not induce vomiting. Seek immediate medical assistance.

Note to Physician: Gastric lavage using a cuffed endotracheal tube may be performed at your discretion.

G. Physical Data

Appearance:	Amber Liquid
Odor:	Mild
Boiling Point:	325-625F (163-329C)
Vapor Pressure:	<1
Vapor Density (Air = 1):	6-7
Solubility in Water:	Negligible
Specific Gravity (H2O = 1):	0.85 at 60/60F
Percent Volatile by Volume:	100
Evaporation Rate (Butyl Acetate = 1):	<1
Viscosity:	Not Established

H. Fire and Explosion Data

Flash Point (Method Used):	>100F (>38C) (TCC, ASTM D 56)
Flammable Limits (% by Volume in Air):	LEL - Not Established UEL - Not Established
Fire Extinguishing Media:	Dry chemical, foam or carbon dioxide (CO2)
Special Fire Fighting Procedures:	Evacuate area of all unnecessary personnel. Shut off source, if possible. Use NIOSH/MSHA approved self-contained breathing apparatus and other protective equipment and/or garments described in Section C if conditions warrant. If conditions immediately dangerous to life or health (IDLH) exist, use NIOSH/MSHA approved self-contained breathing apparatus (SCBA) equipment. Water fog or spray may be used to cool exposed containers and equipment. Do not spray water directly on fire - product will float and could be reignited on surface of water.
Fire and Explosion Hazards:	Carbon oxides and various hydrocarbons formed when burned.

I. Spill, Leak and Disposal Procedures

Precautions Required if Material is Released or Spilled:

Evacuate area of all unnecessary personnel. Wear protective equipment and/or garments described in Section C if exposure conditions warrant. In case of spill or leak resulting in unknown concentration, use NIOSH/MSHA approved supplied air respirator. In case of spill or leak which results in conditions immediately dangerous to life or health (IDLH) use NIOSH/MSHA approved self-contained breathing apparatus (SCBA) equipment. When entry into or exit from concentrations of unknown exposure, use NIOSH/MSHA approved self-contained breathing apparatus (SCBA). Shut off source, if possible and contain spill. Protect from ignition. Keep out of water sources and sewers. Absorb in dry, inert material. Transfer to disposal drums using non-sparking equipment.

Waste Disposal (Insure Conformity with all Applicable Disposal Regulations):

Incinerate or place in RCRA permitted waste management facility.

J. DOT Transportation

Shipping Name: Fuel oil, No. 2
Hazard Class: Combustible liquid
ID Number: NA 1993
Marking: 1993 or Fuel Oil (See 49 CFR 172.336(c)(3))
Label: None
Placard: Flammable or Combustible/1993, or Fuel Oil (See 49 CFR 172.544(c))
Hazardous Substance/RQ: Not Applicable
Shipping Description: Fuel Oil, No. 2, Combustible Liquid, NA 1993
Packaging References: 49 CFR 173.118a

K. RCRA Classification - Unadulterated Product as a Waste

Ignitable

L. Protection Required for Work on Contaminated Equipment

Wear protective equipment and/or garments described in Section C if exposure conditions warrant. Use NIOSH/MSHA approved respiratory protection, such as air-supplied mask, in confined spaces or other poorly ventilated areas. See Protective Clothing Requirements. Contact immediate supervisor for specific instructions before work is initiated.

M. Hazard Classification

_X_ This product meets the following hazard definition(s) as defined by the Occupational Safety and Health Hazard Communication Standard (29 CFR Section 1910.1200):

_X_ Combustible Liquid	___ Flammable Aerosol	___ Oxidizer
___ Compressed Gas	___ Explosive	___ Pyrophoric
___ Flammable Gas	_X_ Health Hazard (Section F)	___ Unstable
___ Flammable Liquid	___ Organic Peroxide	___ Water Reactive
___ Flammable Solid		

___ Based on information presently available, this product does not meet any of the hazard definitions of 29 CFR Section 1910.1200.

N. Additional Comments

As of the preparation date, this product did not contain a chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

March 31, 1990

USA and WORLDWIDE

Material Safety Data Sheet

GASOLINES (ALL GRADES)

This Material Safety Data Sheet references the following grades:

Regular Leaded, Regular Unleaded, Unleaded Plus, Unleaded Plus/Reformulated, and Premium Unleaded

PHILLIPS 66 COMPANY
A Division of Phillips Petroleum Company
Bartlesville, Oklahoma 74004

PHONE NUMBERS
Emergency:
Business Hours (918) 661-3865
After Hours (918) 661-8118
General MSDS Information:
(918) 661-8327
For Additional MSDSs: (918) 661-5952

A. Product Identification

Synonyms: Petrol, Motor Fuel
Chemical Name: Mixture
Chemical Family: Aliphatic and Aromatic Hydrocarbon
Chemical Formula: Mixture
CAS Reg. No.: Mixture
Product No.: 10000, 10001; 12050, 12051; 12052, 12053; 12054, 12055; 13050, 13051; respectively

Product and/or Components Entered on EPA's TSCA Inventory: YES

This product is in U.S. commerce, and is listed in the Toxic Substances Control Act (TSCA) Inventory of Chemicals; hence, it is subject to all applicable provisions and restrictions of 40 CFR, section 721 and 723.250.

B. Hazardous Components

Ingredients	CAS Number	% By Wt.	OSHA PEL	ACGIH TLV
Gasoline, including:	8006-61-9	100	300 ppm	300 ppm
Benzene	71-43-2	< 5	10 ppm(1)	10 ppm
Toluene	108-88-3	<10	100 ppm	100 ppm
Ethyl Benzene	100-41-4	< 2	100 ppm	100 ppm
p-Xylene	106-42-3	< 3	100 ppm	100 ppm
m-Xylene	108-38-3	< 6	100 ppm	100 ppm
o-Xylene	95-47-6	< 3	100 ppm	100 ppm
Methyl-tert-Butyl Ether	1634-04-4	<15	NE	NE
1,2,4-Trimethyl Benzene	95-63-6	< 3	25 ppm(2)	25 ppm(2)
Tetraethyl Lead (TEL)	78-00-2	<0.25 g/gal**	0.075 mg/m3*	0.1 mg/m3*

* As Lead, skin notation
** Quarterly average equivalent to <0.1 g Pb/gal for leaded gasolines
Unleaded gasolines, <0.05 g Pb/gal per sample
(1) Areas covered by the Benzene Standard, 29 CFR 1910.1028, will have

NA - Not Applicable NE - Not Established

a 1 ppm 8 hour TWA and 5 ppm STEL.
(2) For Trimethylbenzenes

C. Personal Protection Information

Ventilation:	Use adequate ventilation to control exposure below recommended levels.
Respiratory Protection:	For concentrations exceeding the recommended exposure level, use NIOSH/MSHA approved air purifying respirator. When entry into or exit from concentrations of unknown exposure, use NIOSH/MSHA approved self-contained breathing apparatus (SCBA).
Eye Protection:	Use safety glasses with side shields.
Skin Protection:	Use gloves of Viton, Nitrile, or Polyvinyl Alcohol (PVA) construction and full body long-sleeved garments.

NOTE: Personal protection information shown in Section C is based upon general information as to normal uses and conditions. Where special or unusual uses or conditions exist, it is suggested that the expert assistance of an industrial hygienist or other qualified professional be sought.

D. Handling and Storage Precautions

Avoid contact with eyes, skin or clothing. Avoid breathing vapors. Wear protective equipment and/or garments described in Section C if exposure conditions warrant. Wash thoroughly after handling. Immediately remove any contaminated clothing. Launder contaminated clothing before reuse. Do not siphon by mouth.

Store in cool, well-ventilated area away from ignition sources. Provide means of controlling leaks and spills. Bond and ground during liquid transfer. Keep containers closed. Protect containers from physical damage.

E. Reactivity Data

Stability:	Stable
Conditions to Avoid:	Not Applicable
Incompatibility (Materials to Avoid):	Oxygen and strong oxidizing agents
Hazardous Polymerization:	Will Not Occur
Conditions to Avoid:	Not Applicable
Hazardous Decomposition Products:	Carbon oxides, lead fumes (for grades containing Tetraethyl Lead) and various hydrocarbons when burned.

F. Health Hazard Data

Recommended Exposure Limits:

See Section B.

Acute Effects of Overexposure:

Eye: May cause slight irritation to the eyes.

Skin: May cause slight irritation to the skin.

Inhalation: May cause headache, nausea, weakness, sedation, and unconsciousness.

Ingestion: May cause irritation to intestines. May be aspirated into the lungs if swallowed, which may result in pulmonary edema and chemical pneumonitis.

Subchronic and Chronic Effects of Overexposure:

Unleaded gasoline has produced cancer in laboratory animals. No comparable health hazard for cancer is known to occur in humans.

Other Health Effects:

Unleaded gasoline has produced kidney damage in male rats only. No comparable health hazard for kidney disease is known to occur in humans.

Gasolines containing lead anti-knock compounds should be handled in such a way to minimize contact with the body. Lead can accumulate in the body with overexposure and cause illness due to effects on the blood, nerves, kidneys and the reproductive system.

Gasolines generally contain Benzene which has been designated a carcinogen by NTP, IARC, and OSHA. Benzene may produce blood changes which include reduced platelets, reduced red blood cells, reduced white blood cells, aplastic anemia, and acute nonlymphocytic leukemia. Benzene has produced fetal death in laboratory animals and caused chromosome changes in humans and mutation changes in cells of other organisms. Health effects attributable to Benzene are not known to occur in humans exposed to gasolines.

Health Hazard Categories:

	Animal	Human		Animal	Human
Known Carcinogen	___	___	Toxic	___	___
Suspect Carcinogen	_X_	___	Corrosive	___	___
Mutagen	___	___	Irritant	___	___
Teratogen	___	___	Target Organ Toxin	_X_	_X_
Allergic Sensitizer	___	___	Specify - Lung-Aspiration Hazard		
Highly Toxic	___	___			

First Aid and Emergency Procedures:

Eye:	Flush eyes with running water for at least fifteen minutes. If irritation develops, seek medical attention.
Skin:	Wash with soap and water. If irritation develops, seek medical attention.
Inhalation:	Remove from exposure. If breathing ceases, administer artificial respiration followed by oxygen. Seek medical attention.
Ingestion:	Do not induce vomiting. Seek immediate medical assistance.
Note to Physician:	Gastric lavage using a cuffed endotracheal tube may be performed at your discretion.

G. Physical Data

Appearance:	Red-orange Liquid
Odor:	Pungent
Boiling Point:	80-430F (27-221C)
Vapor Pressure:	350-800 mmHg at 20C (68F)
Vapor Density (Air = 1):	3-4
Solubility in Water:	Negligible
Specific Gravity (H2O = 1):	0.8 at 60/60F (15.6/15.6C)
Percent Volatile by Volume:	100
Evaporation Rate (Butyl Acetate = 1):	> 1
Viscosity:	Not Established

H. Fire and Explosion Data

Flash Point (Method Used):	<-35F (-37C) (Estimated)
Flammable Limits (% by Volume in Air):	LEL - 1.5 UEL - 7.6
Fire Extinguishing Media:	Dry chemical, foam or carbon dioxide (CO2)
Special Fire Fighting Procedures:	Evacuate area of all unnecessary personnel. Wear appropriate safety equipment for fire conditions including NIOSH/MSHA self-contained breathing apparatus (SCBA). Shut off source, if possible. Water fog or spray may be used to cool exposed containers and equipment. Do not spray water directly on fire - product will float and could be reignited on surface of water.
Fire and Explosion Hazards:	Carbon oxides and various hydrocarbons formed when burned. Gasolines containing Tetraethyl Lead will form lead fumes when burning. Highly flammable vapors which are heavier than air may accumulate in low areas and/or spread along ground away from handling site. Flashback along vapor trail may occur.

I. Spill, Leak and Disposal Procedures

Precautions Required if Material is Released or Spilled:
Evacuate area of all unnecessary personnel. Wear protective equipment and/or garments described in Section C if exposure conditions warrant. Shut off source, if possible and contain spill. Protect from ignition. Keep out of water sources and sewers. Absorb in dry, inert material. Transfer to disposal drums using non-sparking equipment.

Waste Disposal (Insure Conformity with all Applicable Disposal Regulations):
Incinerate or otherwise manage in a RCRA permitted waste management facility.

J. DOT Transportation

Shipping Name:	Gasoline
Hazard Class:	Flammable Liquid
ID Number:	UN 1203
Marking:	Gasoline/UN 1203 on containers smaller than 110 gallons; 1203 on bulk containers.
Label:	Flammable Liquid
Placard:	Flammable
Hazardous Substance/RQ:	Tetraethyl Lead (10 lbs.) - for grades containing TEL.
Shipping Description:	Gasoline, Flammable Liquid, UN 1203
Packaging References:	49 CFR 173.118 and 173.119(a)

K. RCRA Classification - Unadulterated Product as a Waste

Ignitable (D001) - For all gasolines.
EP Toxic (D008) - For gasolines containing TEL.

L. Protection Required for Work on Contaminated Equipment

Contact immediate supervisor for specific instructions before work is initiated. Wear protective equipment and/or garments described in Section C if exposure conditions warrant.

M. Hazard Classification

_X_ This product meets the following hazard definition(s) as defined by the Occupational Safety and Health Hazard Communication Standard (29 CFR Section 1910.1200):

___ Combustible Liquid	___ Flammable Aerosol	___ Oxidizer
___ Compressed Gas	___ Explosive	___ Pyrophoric
___ Flammable Gas	_X_ Health Hazard (Section F)	___ Unstable
_X_ Flammable Liquid	___ Organic Peroxide	___ Water Reactive
___ Flammable Solid		

___ Based on information presently available, this product does not meet any of the hazard definitions of 29 CFR Section 1910.1200.

N. *Additional Comments*

This product contains the following chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372. (See Hazardous Components Section B).

Benzene
Toluene
Ethyl Benzene
p-Xylene
o-Xylene
m-Xylene
Methyl-tert-Butyl Ether
1,2,4-Trimethyl Benzene

A Toxicity Study Summary is available upon request for Regular Gasoline.

Material Safety Data Sheet

Prepared According to the OSHA Hazard Communication Standard (29 CFR 1910.1200).
(Formerly Called MATERIAL INFORMATION BULLETIN)

CHEVRON RPM DELO Motor Oil SAE 15W-40 **CPS 225020**

TYPICAL COMPOSITION

Highly refined base oils (CAS 64742-54-7 and 64742-65-0)	>75%
Additives including inhibitor, dispersants, detergents, viscosity index improver, calcium phenate and zinc dialkyldithiophosphate (CAS 68649-42-3)	<25%

EXPOSURE STANDARD

No Federal OSHA exposure standard or ACGIH TLV has been established for this material. Based on information reviewed to date, we recommend an exposure standard of 5 mg/m^3. This is the Federal OSHA exposure standard and the ACGIH (1984-85) TLV for mineral oil mists.

PHYSIOLOGICAL & HEALTH EFFECTS	EMERGENCY & FIRST AID PROCEDURES
Eyes	
Expected to cause no more than minor eye irritation.	Flush eyes immediately with fresh water for at least 15 minutes while holding the eyelids open. If irritation persists, see a doctor.
Skin	
Expected to cause no more than minor skin irritation following prolonged or frequently repeated contact. See Additional Health Data.	Wash skin thoroughly with soap and water. Launder contaminated clothing.
Inhalation	
Not expected to be acutely toxic by inhalation. Breathing mineral oil mist at concentrations in air that exceed the recommended exposure standard can cause respiratory irritation or discomfort. See Additional Health Data.	If respiratory discomfort or irritation occurs, move the person to fresh air. See a doctor if discomfort or irritation continues.
Ingestion	
Not expected to be acutely toxic by ingestion.	If swallowed, give water or milk to drink and telephone for medical advice. Consult medical personnel before inducing vomiting. If medical advice cannot be obtained, then take the person and product container to the nearest medical emergency treatment center or hospital.

ADDITIONAL HEALTH DATA

See Page 3.

SPECIAL PROTECTIVE INFORMATION

Eye Protection: No special eye protection is necessary.
Skin Protection: No special skin protection is necessary.
Respiratory Protection: No special respiratory protection is normally required. However, if operating conditions create airborne concentrations which exceed the recommended exposure standard, the use of an approved respirator is recommended.
Ventilation: Use adequate ventilation to keep the airborne concentrations of this material below the recommended exposure standard.

FIRE PROTECTION

Flash Point: (COC)410°F(210°C) Min.
Autoignition Temp.: NDA
Flammability Limits: n/a
Extinguishing Media: CO_2, Dry Chemical, Foam, Water Fog.
Special Fire Fighting Procedures: For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus. See Hazardous Decomposition Products. Read the entire MSDS.

SPECIAL PRECAUTIONS

DO NOT weld, heat or drill container. Residue may ignite with explosive violence if heated sufficiently.

CAUTION! Do not use pressure to empty drum or explosion may result.

ENVIRONMENTAL PROTECTION

Environmental Impact: This material is not expected to present any environmental problems other than those associated with oil spills.
Precautions if Material is Released or Spilled: Stop the source of the leak or release. Clean up releases as soon as possible, observing precautions in Special Protective Information. Contain liquid to prevent further contamination of soil, surface water or groundwater. Clean up small spills using appropriate techniques such as sorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Follow prescribed procedures for reporting and responding to larger releases.
Waste Disposal Methods: Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material.

REACTIVITY DATA

Stability (Thermal, Light, etc.): Stable
Incompatibility (Materials to Avoid): May react with strong oxidizing materials.
Hazardous Decomposition Products: Normal combustion forms carbon dioxide and water vapor and may produce oxides of sulfur, nitrogen and phosphorus; incomplete combustion can produce carbon monoxide.
Hazardous Polymerization: Will not occur.

PHYSICAL PROPERTIES

Solubility: Insoluble in water. Miscible with hydrocarbon solvents.
Appearance (Color, Odor, etc.): Dark amber liquid
Boiling Point: n/a
Melting Point: n/a
Specific Gravity: 0.89 15.6/15.6°C
Vapor Pressure: n/a
Vapor Density (Air=1): n/a
Percent Volatile (Volume %): n/a
Evaporation: n/a
Pour Point: -22°C (Max.)
Viscosity: 13.8 cSt @ 100°C

n/a = Not Applicable
NDA = No Data Available

Material Safety Data Sheet

CHEVRON RPM DELO Motor Oil SAE 15W-40 **CPS 225020**

ADDITIONAL HEALTH DATA

Signs and symptoms of respiratory tract irritation may include, but may not be limited to, one or more of the following, depending on concentration and length of exposure: nasal discharge, nosebleed, sore throat, coughing, bronchitis, pulmonary edema and difficulty in breathing.

This product contains zinc dialkyldithiophosphate (ZDDP). ZDDPs have been tested by repeated application to the skin of young rabbits for three weeks. These rabbits developed severe skin damage, weight loss, and adverse testicular effects. Follow-up studies indicated similar testicular effects can be produced by placing rabbits on a restricted diet and causing them to lose weight or by treating rabbits with simple caustic chemicals and causing them to develop both severe skin irritation and weight loss. Rats similarly treated with ZDDP did not develop testicular effects even when skin damage and weight loss occurred. These results indicate that the testicular effects seen in rabbits were not caused by the toxicity of ZDDPs but were due to the species reaction to stress from severe skin irritation and weight loss. There is no evidence that human exposure to ZDDPs in the workplace will cause testicular effects since occupational exposure does not cause stress from severe skin irritation and weight loss similar to that observed in rabbits. In summary, we now believe there is no risk of male reproductive impairment from working with ZDDP.

Several ZDDPs have also been found to have weak mutagenic activity in cultured mammalian cells. The low level of activity occurred only at ZDDP concentrations which were highly toxic to the test cells. Since mutagenic activity was observed with zinc chloride but not with calcium dialkyldithiophosphate, the weak mutagenic activity of ZDDP may be due to the zinc in the chemical. Zinc is abundant in the environment, is an essential element in our diets, and it is generally accepted that zinc is not a health hazard. Therefore, we do not believe the test results discussed above indicate a genetic hazard to employees working with ZDDPs. Appropriate personal hygiene procedures as outlined in the MSDS, should, of course, be followed since ZDDPs in concentrated form are irritating to the skin.

This product also contains calcium phenate. When a similar calcium phenate was applied to the skin of rabbits five days/week for four weeks, the animals developed adverse testicular effects. Studies with other chemicals have since shown that rabbits may develop similar testicular effects due to stress rather than to chemical toxicity. We further investigated the effects of calcium phenates in rats, a species now recognized as more appropriate than rabbits for investigating toxicity by repeated skin exposures. Calcium phenate applied five days/week for four weeks to the skin of rats did not produce adverse testicular effects. Based on these data, we believe that there is no risk of male reproductive impairment from exposure to calcium phenate in the workplace.

This product contains base oils which the International Agency for Research on Cancer (IARC) classifies as having no evidence of carcinogenic potential.

During use in engines, contamination of oil with low levels of cancer-causing combustion products occurs. Used motor oils have been shown to cause skin cancer in mice following repeated application and continuous exposure. Brief or intermittent skin contact with used motor oil is not expected to have serious effects in humans if the oil is thoroughly

removed by washing with soap and water. See Chevron Material Safety Data Sheet No. 1793 for additional information on used motor oil.

Material Safety Data Sheet

Prepared According to the OSHA Hazard Communication Standard (29 CFR 1910.1200).
(Formerly Called MATERIAL INFORMATION BULLETIN)

CHEVRON Universal Gear Lubricant SAE 80W-90 **CPS 250102**

TYPICAL COMPOSITION

Highly refined base oils (CAS 64742-57-0, 64742-01-4, 64742-54-7, 64742-62-7, 64742-41-2, 64742-65-0, 64742-36-5)	>90%
Additives including inhibitors and extreme pressure agent	<10%

EXPOSURE STANDARD

No Federal OSHA exposure standard or ACGIH TLV has been established for this material. Based on information reviewed to date, we recommend an exposure standard of 5 mg/m^3. This is the Federal OSHA exposure standard and the ACGIH (1984-85) TLV for mineral oil mists.

PHYSIOLOGICAL & HEALTH EFFECTS	EMERGENCY & FIRST AID PROCEDURES
Eyes	
Expected to cause no more than minor eye irritation.	Flush eyes immediately with fresh water for at least 15 minutes while holding the eyelids open. If irritation persists, see a doctor.
Skin	
Expected to cause no more than minor skin irritation following prolonged or frequently repeated contact.	Wash thoroughly with soap and water following skin contact. Launder contaminated clothing.
Inhalation	
Wash skin thoroughly with soap and water. Launder contaminated clothing.	If respiratory discomfort or irritation occurs, move the person to fresh air. See a doctor if discomfort or irritation continues.
Ingestion	
Not expected to have acute systemic toxicity by ingestion.	If swallowed, give water or milk to drink and telephone for medical advice. Consult medical personnel before inducing vomiting. If medical advice cannot be obtained, then take the person and product container to the nearest medical emergency treatment center or hospital.

ADDITIONAL HEALTH DATA

Signs and symptoms of respiratory tract irritation may include, but may not be limited to, one or more of the following, pending on concentration and length of exposure: nasal discharge, nosebleed, sore throat, coughing, bronchitis, pulmonary edema and difficulty in breathing.

This product contains base oils which the International Agency for Research on Cancer (IARC) classifies as having no evidence of carcinogenic potential.

SPECIAL PROTECTIVE INFORMATION

Eye Protection: No special eye protection is necessary.
Skin Protection: No special skin protection is necessary.
Respiratory Protection: No special respiratory protection is normally required. However, if operating conditions create airborne concentrations which exceed the recommended exposure standard, the use of an approved respirator is recommended.
Ventilation: Use adequate ventilation to keep the airborne concentrations of this material below the recommended exposure standard.

FIRE PROTECTION

Flash Point: (COC)392°F(200°C) Min.
Autoignition Temp.: NDA
Flammability Limits: n/a
Extinguishing Media: CO_2, Dry Chemical, Foam, Water Fog
Special Fire Fighting Procedures: For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus. See Hazardous Decomposition Products. Read the entire MSDS.

SPECIAL PRECAUTIONS

DO NOT weld, heat or drill container. Residue may ignite with explosive violence if heated sufficiently.

CAUTION! Do not use pressure to empty drum or explosion may result.

ENVIRONMENTAL PROTECTION

Environmental Impact: This material is not expected to present any environmental problems other than those associated with oil spills.
Precautions if Material is Released or Spilled: Stop the source of the leak or release. Clean up releases as soon as possible. Contain liquid to prevent further contamination of soil, surface water or groundwater. Clean up small spills using appropriate techniques such as sorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Follow prescribed procedures for reporting and responding to larger releases.
Waste Disposal Methods: Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material.

REACTIVITY DATA

Stability (Thermal, Light, etc.): Stable.
Incompatibility (Materials to Avoid): May react with strong oxidizing materials.
Hazardous Decomposition Products: Normal combustion forms carbon dioxide and water vapor and may produce oxides of sulfur and phosphorus; incomplete combustion can produce carbon monoxide.
Hazardous Polymerization: Will not occur.

PHYSICAL PROPERTIES

Solubility: Insoluble in water. Miscible with hydrocarbon solvents.
Appearance (Color, Odor, etc.): Dark green liquid
Boiling Point: n/a
Melting Point: n/a
Specific Gravity: 0.90 @ 15.6/15.6°C
Vapor Pressure: n/a
Vapor Density (Air=1): n/a
Percent Volatile (Volume %): n/a
Evaporation: n/a
Pour Point: -26°C (Max.)
Viscosity: 15.1 cSt @ 100°C (Min.)

n/a = Not Applicable
NDA = No Data Available

Material Safety Data Sheet

Prepared According to the OSHA Hazard Communication Standard (29 CFR 1910.1200). (Formerly Called MATERIAL INFORMATION BULLETIN)

CHEVRON Universal Gear Lubricant SAE 80W-90 **CPS 250102**

TYPICAL COMPOSITION

Highly refined base oils (CAS 64742-57-0, 64742-01-4, 64742-54-7, 64742-62-7, 64742-41-2, 64742-65-0, 64742-36-5)	>90%
Additives including inhibitors and extreme pressure agent	<10%

EXPOSURE STANDARD

No Federal OSHA exposure standard or ACGIH TLV has been established for this material. Based on information reviewed to date, we recommend an exposure standard of 5 mg/m^3. This is the Federal OSHA exposure standard and the ACGIH (1984-85) TLV for mineral oil mists.

PHYSIOLOGICAL & HEALTH EFFECTS	EMERGENCY & FIRST AID PROCEDURES
Eyes	
Expected to cause no more than minor eye irritation.	Flush eyes immediately with fresh water for at least 15 minutes while holding the eyelids open. If irritation persists, see a doctor.
Skin	
Expected to cause no more than minor skin irritation following prolonged or frequently repeated contact.	Wash thoroughly with soap and water following skin contact. Launder contaminated clothing.
Inhalation	
Wash skin thoroughly with soap and water. Launder contaminated clothing.	If respiratory discomfort or irritation occurs, move the person to fresh air. See a doctor if discomfort or irritation continues.
Ingestion	
Not expected to have acute systemic toxicity by ingestion.	If swallowed, give water or milk to drink and telephone for medical advice. Consult medical personnel before inducing vomiting. If medical advice cannot be obtained, then take the person and product container to the nearest medical emergency treatment center or hospital.

ADDITIONAL HEALTH DATA

Signs and symptoms of respiratory tract irritation may include, but may not be limited to, one or more of the following, depending on concentration and length of exposure: nasal discharge, nosebleed, sore throat, coughing, bronchitis, pulmonary edema and difficulty in breathing.

This product contains base oils which the International Agency for Research on Cancer (IARC) classifies as having no evidence of carcinogenic potential.

SPECIAL PROTECTIVE INFORMATION

Eye Protection: No special eye protection is necessary.
Skin Protection: No special skin protection is necessary.
Respiratory Protection: No special respiratory protection is normally required. However, if operating conditions create airborne concentrations which exceed the recommended exposure standard, the use of an approved respirator is recommended.
Ventilation: Use adequate ventilation to keep the airborne concentrations of this material below the recommended exposure standard.

FIRE PROTECTION

Flash Point: (COC)392°F(200°C) Min.
Autoignition Temp.: NDA
Flammability Limits: n/a
Extinguishing Media: CO_2, Dry Chemical, Foam, Water Fog
Special Fire Fighting Procedures: For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus. See Hazardous Decomposition Products. Read the entire MSDS.

SPECIAL PRECAUTIONS

DO NOT weld, heat or drill container. Residue may ignite with explosive violence if heated sufficiently.

CAUTION! Do not use pressure to empty drum or explosion may result.

ENVIRONMENTAL PROTECTION

Environmental Impact: This material is not expected to present any environmental problems other than those associated with oil spills.
Precautions if Material is Released or Spilled: Stop the source of the leak or release. Clean up releases as soon as possible. Contain liquid to prevent further contamination of soil, surface water or groundwater. Clean up small spills using appropriate techniques such as sorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Follow prescribed procedures for reporting and responding to larger releases.
Waste Disposal Methods: Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material.

REACTIVITY DATA

Stability (Thermal, Light, etc.): Stable.
Incompatibility (Materials to Avoid): May react with strong oxidizing materials.
Hazardous Decomposition Products: Normal combustion forms carbon dioxide and water vapor and may produce oxides of sulfur and phosphorus; incomplete combustion can produce carbon monoxide.
Hazardous Polymerization: Will not occur.

PHYSICAL PROPERTIES

Solubility: Insoluble in water. Miscible with hydrocarbon solvents.
Appearance (Color, Odor, etc.): Dark green liquid
Boiling Point: n/a
Melting Point: n/a
Specific Gravity: 0.90 @ 15.6/15.6°C
Vapor Pressure: n/a
Vapor Density (Air=1): n/a
Percent Volatile (Volume %): n/a
Evaporation: n/a
Pour Point: -26°C (Max.)
Viscosity: 15.1 cSt @ 100°C (Min.)

n/a = Not Applicable
NDA = No Data Available

Dear Customer: This Bulletin contains important environmental, health and toxicology information for your employees who recently ordered this product. Please make sure this information is given to them. If you resell this product, this Bulletin should be given to the Buyer. This Form may be reproduced without permission.

Chevron U.S.A. Inc.

Material Safety Data Sheet

Prepared According to the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Formerly Called MATERIAL INFORMATION BULLETIN)

Chevron

CHEVRON Ultra-Duty Grease 2 CPS 254600

TYPICAL COMPOSITION

Highly refined base oils (CAS 64741-96-4/64742-52-5, 64742-57-0 and 72623-85-9) and polymer	>75%
Additives including extreme pressure and tackiness agents, thickener and inhibitors, including a substituted benzotriazole (less than 0.5%)	<25%

EXPOSURE STANDARD

No Federal OSHA exposure standard or ACGIH TLV has been established for this material.

PHYSIOLOGICAL & HEALTH EFFECTS — EMERGENCY & FIRST AID PROCEDURES

Eyes

Expected to cause no more than minor eye irritation.

Flush eyes immediately with fresh water for at least 15 minutes while holding the eyelids open. If irritation persists, see a doctor.

Skin

Expected to cause no more than minor skin irritation following prolonged or frequently repeated contact. See Additional Health Data.

Remove contaminated clothing. Wash skin thoroughly with soap and water. If a skin rash develops, see a doctor. Launder contaminated clothing.

Inhalation

Not expected to be acutely toxic by inhalation.

Since this material is not expected to be an acute inhalation problem, no first aid procedures are required.

Ingestion

Not expected to be acutely toxic by ingestion.

If swallowed, give water or milk. Consult medical personnel before inducing vomiting. If advise cannot be obtained, take person and container to nearest emergency treatement center.

ADDITIONAL HEALTH DATA
See following pages

SPECIAL PROTECTIVE INFORMATION
Eye Protection: No special eye protection necessary.
Skin Protection: Avoid prolonged or frequently repeated skin contact with this material. Skin contact can be minimized by wearing impervious protective clothing including gloves.
Respiratory Protection: No special respiratory protection is necessary.
Ventilation: No special ventilation is necessary.

FIRE PROTECTION
Flash Point: n/a
Autoignition Temp.: NDA
Flammability Limits: n/a
Extinguishing Media: CO_2, Dry Chemical, Foam, Water Fog.
Special Fire Fighting Procedures: For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus. See Hazardous Decomposition Products. Read the entire MSDS.

SPECIAL PRECAUTIONS
DO NOT weld, heat or drill container. Residue may ignite with explosive violence if heated sufficiently.

CAUTION! Do not use pressure to empty drum or explosion may result.

ENVIRONMENTAL PROTECTION
Environmental Impact: This material is not expected to present any environmental problems.
Precautions if Material is Released or Spilled: Clean up spills immediately, observing precautions in Special Protective Information.
Waste Disposal Methods: Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material.

REACTIVITY DATA
Stability (Thermal, Light, etc.): Stable
Incompatibility (Materials to Avoid): May react with strong oxidizing materials.
Hazardous Decomposition Products: Normal combustion forms carbon dioxide and water vapor and may produce oxides of sulfur, nitrogen and phosphorus; incomplete combustion can produce carbon monoxide.
Hazardous Polymerization: Will not occur.

PHYSICAL PROPERTIES
Solubility: Soluble in hydrocarbon solvents; insoluble in water.
Appearance (Color, Odor, etc.): Red grease
Boiling Point: n/a
Melting Point: n/a
Specific Gravity: NDA
Vapor Pressure: n/a
Vapor Density (Air=1): n/a
Percent Volatile (Volume %): n/a
Evaporation: n/a

n/a = Not Applicable
NDA = No Data Available

Material Safety Data Sheet

CHEVRON Ultra-Duty Grease 2 CPS 254600

ADDITIONAL HEALTH DATA

Experimental evidence indicates that substituted benzotriazole may cause allergic skin reactions. There is no evidence that human exposure to the low levels of the additive in this product will cause such skin reactions. However, we strongly recommend that the precautions outlined in this MSDS be followed to minimize contact with this product.

This product contains base oils which the International Agency for Research on Cancer (IARC) classifies as having no evidence of carcinogenic potential.

This product contains petroleum base oils refined by a combination of severe hydrocracking and hydrotreating. The carcinogenic potential of paraffinic base oils prepared by this process is not specifically addressed by OSHA, NTP, or IARC. However, the process conditions, chemical analyses, and the results of Ames tests all support our opinion that these oils are not carcinogenic.

SPECIALTY OIL COMPANY, INC.

MATERIAL SAFETY DATA SHEE

Also Sam's Club "All Weather Antifreeze" and "Auto-Gard"

I. MATERIAL IDENTIFICATION

NAME: WAL MART ANTIFREEZE/COOLANT
Specialty Oil Company Product Code S2100
Synonyms: Ethylene Glycol
Chemical Family: EPA Cas #107-21-1
Manufacturer: Specialty Oil Company, Inc.
Address: P. O. Box 8098, Shreveport, LA 71148

CAS Registry No.: Mixture; major components may be some combination of 107-21-1
Transportation Emergency No.: (800) 424-9300 (chemtrec)
Product Information No.: (318) 687-8000

II. HAZARDOUS INGREDIENTS — HAZARD DATA

Hazard Determination:

Health Effect Properties
Ethylene Glycol — Toxic to nervous system, kidney and liver.

Physical Effect Properties:
Product/Mixture: None. — Not applicable

III. PHYSICAL DATA

Appearance and Odor: Fluorescent green liquid; Mild glycol odor.

Boiling Point (°F)	320	Specific Gravity (H_2O=1)	1.125
Vapor Pressure (mmHg)	0.05	% Volatile (by volume)	NA
Vapor Density (Air=1)	2.14	Evaporation Rate (=1)	NA
Solubility in Water	Completely		

IV. REACTIVITY DATA — STABLE: X UNSTABLE:

Hazardous Decomposition Products: Carbon dioxide, carbon monoxide, vapors of ethylene glycol.

Conditions To Avoid: Strong oxidizing agents.

Hazardous Polymerization: Will not occur.

ember 12, 1985

CAS Registry No.: 107-21-1

V. FIRE AND EXPLOSION HAZARD DATA LFL: 3.2 UFL: 15.3

Flash Point (Method used): 230°F (PMCC)
Handle and store in accordance with NFPA procedure for Class III B Combustible Liquid.

Extinguishing Media: Use water spray, dry chemical, alcohol resistant foam, or carbon dioxide.

Special Fire Fighting Procedures: Use water to keep fire-exposed containers cool. If leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for men attempting to stop a leak. Water spray may be used to flush spills away from exposures.

Unusual Fire and Explosion Hazards: Products of combustion may contain carbon monoxide, carbon dioxide and other toxic materials. Do not enter enclosed or confined space without proper protective equipment including respiratory protection. If water evaporates off, residual materials could burn. Small amounts of oxides of nitrogen can be produced.

National Fire Protection Agency (NFPA) CLASSIFICATION — HAZARD RATING

Health 1 Fire 1 Reactivity 0 — Least - 0 Slight - 1 Moderate - 2 High - 3 Extreme - 4

VI. TRANSPORTATION AND STORAGE DOT HAZARD CLASS: Not Applic

Precautions To Be Taken In Handling And Storing: Product is Class III B Combustible Liquid per NFPA Code No. 30-1984. Store and handle accordingly.

Shipping Paper Description: Not D.O.T. Regulated.

Placard: Not D.O.T. Regulated.

Label: Not D.O.T. Regulated.

VII. HEALTH HAZARD INFORMATION

PEL None available TLV 50 ppm or 125 mg/m^3 (Ceiling values)*
Ceiling Value 50 ppm or 125 mg/m^3*
AEL 50 ppm or 10 mg/m^3 as a time-weighted average*.

*These values are for ethylene glycol.

Primary Route(s) of Exposure/Entry: Skin, inhalation.

Signs and Symptoms of Exposure/Medical Conditions Aggravated By Exposure: No adverse health effect has been identified specifically for this product. Health effect information has been included for components of the product.

September 12, 1985

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VII. HEALTH HAZARD INFORMATION (continued)

Ethylene glycol may cause irritation to eyes, lungs, or skin. Overexposure may cause central nervous system depression and liver or kidney toxicity.

Listed as Carcinogen or Potential Carcinogen by: NTP No IARC No OSHA No

VIII. EMERGENCY AND FIRST AID PROCEDURES

Eyes: Immediately wash with fresh water for at least 15 minutes and get medical attention.

Skin: Remove contaminated clothing as soon as possible. Wash exposed skin thoroughly with soap and water. If irritation persists, consult a physician.

Launder contaminated clothing before reuse. Extremely contaminated leather shoes should be discarded.

Inhalation: If overexposure occurs, remove individual to fresh air. If breathing stops, administer artificial respiration.

Ingestion: If this material is swallowed, do not induce vomiting. If vomiting begins, lower victim's head in an effort to prevent vomitus from entering lungs. Immediately consult a physician. Do not attempt to give liquid to an unconscious person.

Note to Physicians: Emergency procedure for ethylene glycol intoxication should be followed.

IX. SPILL, LEAK AND DISPOSAL PROCEDURES

RCRA HAZARDOUS WASTE: Yes ____ No X

In Case of Spill Or Leak: Contain spill immediately in smallest area possible. Recover as much of the product itself as possible by such methods as vacuuming, followed by soaking up residual fluids by use of absorbent materials. Remove contaminated items including soils and place in proper container for disposal. Avoid washing, draining or directing material to storm or sanitary sewers.

Waste Disposal Method: Recycle as much of the recoverable product as possible. Dispose of nonrecyclable material by such methods as controller incineration, complying with federal, state and local regulations.

September 12, 1985

CAS Registry No.: 107-21-1

X. PRECAUTIONARY MEASURES

Respiratory Protection: None normally required except under unusual circumstances such as described in Section V.

Ventilation: Normal shop ventilation.

Protective Gloves: Impervious.

Eye Protection: Chemical goggles.

Other Protective Equipment: Not normally required.

On Site Technologies, Ltd.
Four-Four Inc.
DeLasso Loop Road Spill

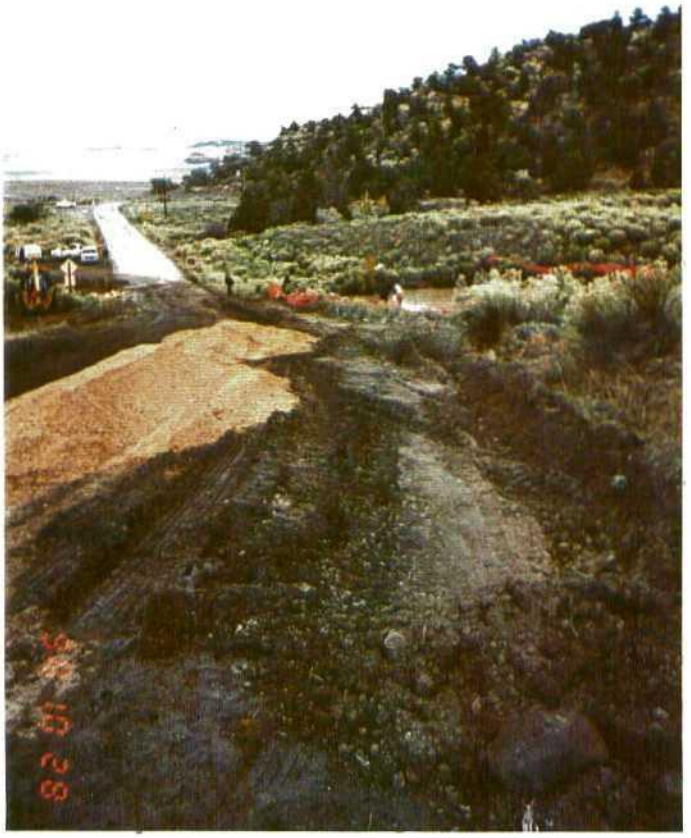
Project #4-1532

Westside Before Cleanup

Westside After Cleanup

On Site Technologies, Ltd.
Four-Four Inc.
DeLasso Loop Road Spill

Project #4-1532



Eastside Before Backfill

Eastside After Cleanup

On Site Technologies, Ltd.
Four-Four Inc.
DeLasso Loop Road Spill

Project #4-1532

Looking North Toward Navajo Dam

Looking South Toward Accident Site