# 3R - 249

# GENERAL CORRESPONDENCE

YEAR(S): 1998

<u>District IV</u> · (505) 827-7131	Energy Minerals and Natural Resources Department Originated 2/13/97 48-1283 Oil Conservation Division 2040 South Pacheco Street 334-6178 ad (505) 827-7131 Submit 2 copies to Appropriate District Office in accordance with Rule 116 on back side of form							
R	elease No	tification a			tive Action			
Name ,		OPE	RATO	Contac			Initial Report	Final Report
Four-Four Inc.					Mike Ha	all		
Address	)n( 07	(0)		Telepho			711	
3000 Bloomfield Hwy. Farmington Fadilty Name	1, NM 8/	401	}	Fadility		327-2	/11	
N/A			ł	,	-	/ A		
Surface Owner		eral Owner					Lease No.	
BLM/BOR		<u>BLM</u> /BOR					N/A	
		CATION (		TEAC	с.	k-		
Unit Letter Section Township Range Feet		orth/South Line	Feet fr		East/West Line	County	/	
H 24 29N 8W N/	<u> </u>	N/A	N/A		N/A	San	Juan	
	N	ATURE O	FREL	EASE				
Type of Release					of Release		Volume Recov	ered
Diesel, New and Used Oil					ox. 800 gal			760 gallons
Source of Release				Date and Hour of Occurrence Date and Hour of Discovery				2
Field Service Vehicle Overturn       Was I smolediate Notice Given?       XX       Yes			10/27/98 1314 10/27/98 1314 If YES, To Whom?					
By Whom?		Required		Datas	istrict <b>ú</b> I_ nd Hour	<u>Offic</u>	e	
Cindy Gray			Unknown 10/28/98				R	
Was a Watercourse Reached?			Unknown 10128/98 If YES, Volume Impacting the Watercourse					
			800 gallons					
If a Watercourse was Impacted, Describe Fully. (Attach A	Iditional Sh	eets If Necessai	ry)		5	R		<sup>i</sup> D
See attached sheets								
Describe Cause of Problem and Remedial Action Taken. (A	ttach Addit	ional Sheets If	Necessa	iry)			· ·	
					<u></u>	N. (3	ion. Di	
See attached sheets						5	MM. 3	
Describe Area Affected and Cleanup Action Taken. (Attac	h Additiona	Sheets If Nec	essary)			<u></u>		
Describe Area Arready and Cleanup Action Taken. (Areach Additional Sheets in Necessar							· · · -	e en landa de la
See attached sheets								
I hereby certify that the information given above is true a are required to report and/or file certain release notificatio a C-1 41 report by the NMOCD marked as "Final Report" conta mination that pose a threat to ground water, surface opera tor of responsibibility for compliance with any other	ts and perform does not reliev water, human	n corrective action we the operator of health or the env	ons for rel f liability vironmen	leases wh should in the In ad	hich may endanger p their operations have	ublic hea failed to	Ith or the environr adequately invest	nent. The acceptance o lgate and remediate
· · · Llal					OIL CON	SERVAT	TON DIVISION	
Printed Name: Mike HALL			Approve District		penson for	IT -	K Cha	vez
Title: GENERAL OFFICE Manag	E L		Approval Date: 1/1 Do 160 Expiration Date:					
Printed Name: Mike HALL Title: GENERA OFFICE Manag Date: 11/17/98 Pho	ne: (505) 3.	271-2711	Condit	Lions of A	Approval: Pver	-ious		·
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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



NOV 1 6 MAR

## 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



November 3, 1998

1

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. 1/2 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

On Site Technologies, Ltd.

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,

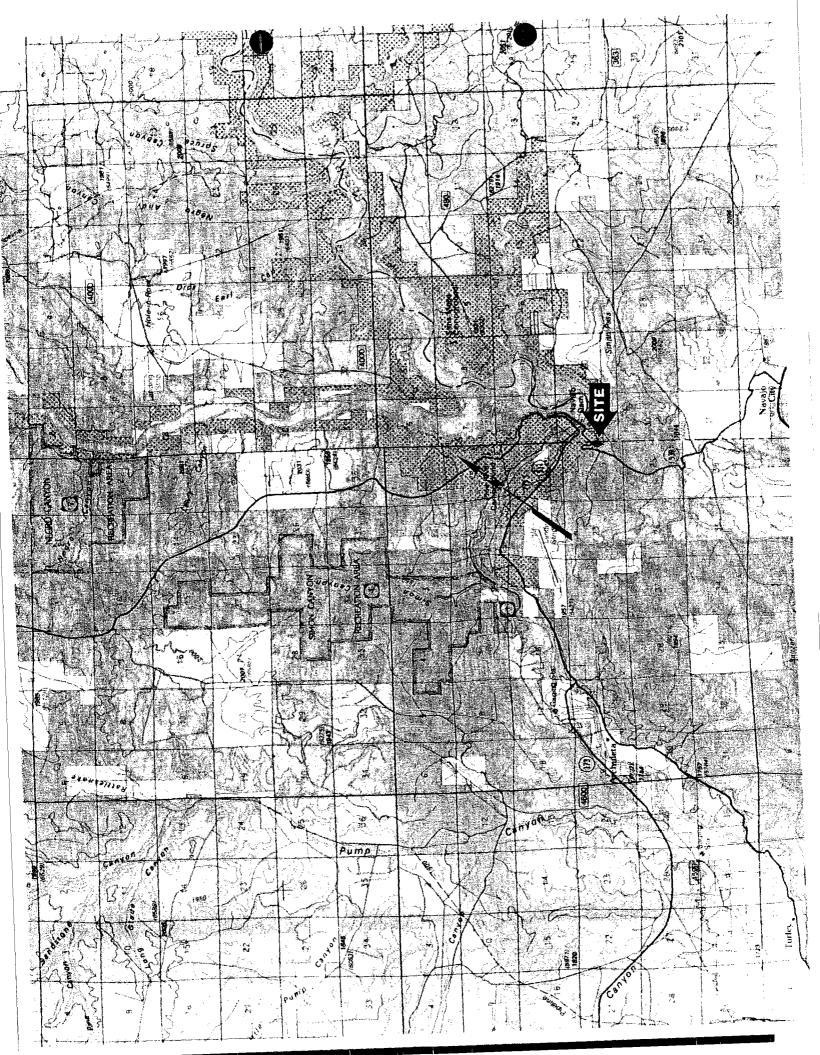
Lawrence/Trujillo Sr. Environmental Technician

Attachments:

Site Location Map MSDSs for Fuels and Oils

CC:

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





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 Informat:	ion:	
	(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, includes,n-Octane n-Nonane Naphthenes Aromatic Hydrocarbons, inclu Benzene Toluene p-Xylene m-Xylene 1,3,5-Trimethylbenzene 1,2,4-Trimethylbenzene 1,2,3-Trimethylbenzene	71-43-2 108-88-3 106-42-3 108-38-3 95-47-6 108-67-8 95-63-6 526-73-8	approx 50 approx 1.0 approx 3.0 approx 33.0 approx 17.0 approx 0.8 approx 1.0 approx 1.0 approx 3.0 approx 1.4 approx 1.4 approx 3.8 approx 1.0	NE 300 ppm 200 ppm NE 10 ppm* 100 ppm 100 ppm 100 ppm 25 ppm 25 ppm 25 ppm	NE 300 ppm 200 ppm NE 10 ppm 100 ppm 100 ppm 100 ppm 25 ppm×× 25 ppm×× 25 ppm××
<ul> <li>Operations covered by the have a 1 ppm 8 hour TWA</li> </ul>			1910.1028,	will

XX For Trimethylbenzene

NA - Not Applicable NE - Not Established

Diesel Fuel No. 1 (PTS-553) (093970)

## 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.

Diesel Fuel No. 1 (PTS-553) (093970)

## 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 Suspect Carcinogen Mutagen Teratogen Allergic Sensitizer Highly Toxic	· ·	 Toxic Corrosive Irritant Target Organ Specify -	Lungs-Aspiration		 ;X
Kidney Toxin-Animals	Highly Toxic		 Blood & Liver Toxin;			

## 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): Flammable Limits (% by Volume in Air):	100-150F (38-66C) (TCC, ASTM D56) 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

	Fuel, Aviation, Turbine Engine Combustible Liquid
ID Number:	
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):

Combustibl			Flammable Aerosol	 Oxidizer
 Compressed Flammable	Gas	- <u>v</u> -	Explosive Health Hazard (Section F)	Pyrophoric Unstable
 Flammable		-^-	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.

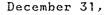
## N. Additional Comments

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.

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USA and WORLDWIDE

Resr

C.

## DUAL PURPOSE FUEL OIL

NOTE

D.

*E*.

Inc

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 Informat:	ion:	
	(918)	66
For Additional MSDSs:	(918)	66

Material Safety Data Sh

## 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

Dua

Page 1 o

## 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 Suspect Carcinogen			Toxic Corrosive		
Mutagen Teratogen			Irritant Target Organ Toxin	<u>_x_</u>	<u>_x</u> _
Allergic Sensitize: Highly Toxic	r		Specify - Lung-Aspiration	Hazard	

#### 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): Flammable Limits (% by Volume in Air):	>100F (>38C) (TCC, ASTM D 56) LEL - Not Established UEL - Not Established
Fire Extinguishing Media:	Dry chemical, foam or carbon

dioxide (CO2)

Special Fire Fighting Procedures: Evac

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 selfcontained 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): Incincrate 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 Compressed Gas Flammable Gas Flammable Liquid Flammable Solid	Flammable Aerosol Explosive _X_ Health Hazard (Section F) Organic Peroxide	Oxidizer Pyrophoric Unstable Water Reactive
--	---	--

\_\_\_\_\_ 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.

Phillips Petroleum Company (references to Phillips Petroleum Company or Phillips includes it's divisions, affiliates and subsidiaries) believes that the information contained herein (including data and statements) is accurate as of the date hereof. NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE AS CONCERNS THE INFORMATION HEREIN PROVIDED. The information provided herein relates only to the specific product designated and may not'be valid where such product is used in combination with any other materials or in any process. Further, since the conditions and methods of use of the product and information referred to herein are beyond the control of Phillips, Phillips expressly disclaims any and all liability as to any results obtained or arising from any use of the product or such information. No statement made herein shall be construed as a permission or recommendation for the use of any product in a manner that might infringe existin; patents.



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: Benzene Toluene Ethyl Benzene p-Xylene m-Xylene o-Xylene Methyl-tert-Butyl Ether 1,2,4-Trimethyl Benzene Tetraethyl Lead (TEL)	$\begin{array}{c} 8006-61-9\\71-43-2\\108-88-3\\100-41-4\\106-42-3\\108-38-3\\95-47-6\\1634-04-4\\95-63-6\\78-00-2\end{array}$	100 < 5 <10 < 2 < 3 < 6 < 3 <15 < 3 <0.25 g/gal**	300 ppm 10 ppm(1) 100 ppm 100 ppm 100 ppm 100 ppm NE 25 ppm(2) 0.075 mg/m3)	300 ppm 10 ppm 100 ppm 100 ppm 100 ppm 100 ppm 100 ppm NE 25 ppm(2) 6 0.1 mg/m3*
<ul> <li>* As Lead, skin notation</li> <li>** Quarterly average equi</li> <li>Unleaded gasolines, &lt;0</li> <li>(1) Areas covered by the B</li> </ul>	.05 g Pb/gal	per sample		

NA - Not Applicable NE - Not Established

Gasolines (All Grades) (PTS-67)(001868)

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 cxposure 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		<u> </u>
Suspect Carcinogen	_X_		Corrosive		
Mutagen			Irritant		<u></u>
Teratogen			Target Organ Toxin	X	_X_
Allergic Sensitizer		<u></u>	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): Flammable Limits (% by Volume in Air):	<-35F (-37C) (Estimated) 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.

Gasolines (All Grades) (PTS-67)(001868)

## 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:	
	Flammable Liquid
1D Number:	
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):

<ul> <li>Combustible Liquid</li> <li>Compressed Gas</li> <li>Flammable Gas</li> <li>X_ Flammable Liquid</li> <li>Flammable Solid</li> </ul>	Flammable Aerosol Explosive X Health Hazard (Section F) Organic Peroxide	Oxidizer Pyrophoric Unstable Water Reactive
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\_\_\_\_ 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 Tolucne 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.

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# **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

#### TYPICAL COMPOSITION

>75% Highly refined base oils (CAS 64742-54-7 and 64742-65-0) 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<sup>3</sup>. This is the Federal OSHA exposure standard and the ACGIH (1984-85) TLV for mineral oil mists.

#### PHYSIOLOGICAL & HEALTH EFFECTS

EMERGENCY & FIRST AID PROCEDURES

Expected to cause no more than minor eye irritation.

Not expected to be acutely toxic

respiratory irritation or discomfort.

Not expected to be acutely toxic

Additional Health Data.

inhalation. Breathing mineral oil mist at

concentrations in air that exceed the

recommended exposure standard can cause

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

#### Skin

Eyes

Expected to cause no more than minor skin Wash skin thoroughly with soap and water. irritation following prolonged or Launder contaminated clothing. frequently repeated contact. See Additional Health Data.

#### Inhalation

by

See

by

If respiratory discomfort or irritation occurs, move the person to fresh air. See a doctor if discomfort or irritation continues.

#### 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.

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ingestion.

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 airborne which concentrations create 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: CO2, 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, self-contained including 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 ODTECTION



**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

The above information is based on data of which we are aware and is believed to be correct as of the date hereof. Since the information contained herein may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose. No. 2163

# **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 X-IRC041 (07-86)

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

No. 2163 4 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

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%</td>

#### EXPOSURE STANDARD

irritation.

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<sup>3</sup>. This is the Federal OSHA exposure standard and the ACGIH (1984-85) TLV for mineral oil mists.

Eyes

Skin

following

#### PHYSIOLOGICAL & HEALTH EFFECTS

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

EMERGENCY & FIRST AID PROCEDURES

Wash thoroughly with soap

contaminated clothing.

skin

Expected to cause no more than minor skin

irritation following prolonged or frequently repeated contact.

Expected to cause no more than minor eye

Inhalation Wash skin thoroughly with soap and water. If Launder contaminated clothing. oc

If respiratory discomfort or irritation occurs, move the person to fresh air. See a doctor if discomfort or irritation continues.

contact.

Not expected to have acute systemic toxicity by ingestion.

#### 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.

Chevron Environmental Health Center, Inc., P.O. Box 4054, Richmond, CA 94804-0054 Emergency Phone Number (415) 233-3737 X-IRC021 (07-85)

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and

water

Launder

CPS 250102



#### ADDITIONAL HEALTH DATA



Signs and symptoms of respiratory tract irritation may include, but may not be 'imited to, one or more of the following, pending on concentration and length of exposure: nasal discharge, nosebleed. throat, bronchitis, sore coughing, 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 normally is 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 erial below the recommended exposure scandard.

FIRE PROTECTION

Flash Point: (COC)392°F(200°C) Min. Autoignition Temp.: NDA Flammability Limits: n/a Extinguishing Media: CO2, Dry Chemical, Foam, Water Fog Special Fire Fighting Procedures: For fires involving this material, do not enter any enclosed or confined fire space protective proper equipment, without 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 Contain liquid possible. 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 ApplicableNDA = No Data Available

The \_\_\_\_\_ove information is based on data of which we are aware and is believed to be correct as of the date hereof. Since the information contained nerein may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose. NO. 861

Dear Customer: This Bulletin contains important environmental, health and toxicology information for your employees who recen ered 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

#### 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<sup>3</sup>. This is the Federal OSHA exposure standard and the ACGIH (1984-85) TLV for mineral oil mists.

#### PHYSIOLOGICAL & HEALTH EFFECTS

EMERGENCY & FIRST AID PROCEDURES

Wash thoroughly with soap

skin

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

or

following

Expected to cause no more than minor skin following irritation prolonged frequently repeated contact.

contaminated clothing. Inhalation

contact.

and

water

Launder

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 systemic acute toxicity by ingestion.

If swallowed, give water or milk to drink and telephone for medical advice. Consult personnel medical 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.

Chevron Environmental Health Center, Inc., P.O. Box 4054, Richmond, CA 94804-0054 Emergency Phone Number (415) 233-3737

X-IRC021 (07-85)

No. 861 Rev. 3 09/26/85

Chevron



CPS 250102

#### ADDITIONAL HEALTH DATA



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

Protection: Respiratory No special respiratory protection 15 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 eep the airborne concentrations of this aterial 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<sub>2</sub>, Dry Chemical, Foam, Water Fog

Special Fire Fighting Procedures: For fires involving this material, do not enter any enclosed or confined fire space protective without proper 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 PRESCTION



X-IRC031 (04-85)

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

The above information is based on data of which we are aware and is believed to be correct as of the date hereof. Since the information contained perein may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

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# 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

Expected to	cause	по	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	Remove contaminated clothing. Wash	skin
irritation	following	prolonged	or	thoroughly with soap and water. If a	skin
frequently	repeated	contact.	See	rash develops, see a doctor. Lau	Inder
Additional H	ealth Data.			contaminated clothing.	

Inhalation

by

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

Not expected to be acutely toxic ingestion.

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.



Eyes

ADDITIONAL HEALTH DATA See following pages



SPECIAL PROTECTIVE INFORMATION

"re Protection: No special eye protection necessary.

5kin 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

?lash Point: n/a
Autoignition Temp.: NDA
Planmability Limits: n/a
Extinguishing Media: CO2, Dry Chemical,
Poam, Water Fog.
Special Fire Fighting Procedures: For

fires involving this material, do not inter any enclosed or confined fire space without proper protective equipment, including self-contained breathing opparatus. See Hazardous Decomposition broducts. Read the entire MSDS.

#### 'ECIAL PRECAUTIONS

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

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

ENVIRONMENTAL TECTION

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

above information is based on data of which we are aware and is believed to be correct as of the date hereof. Since the information contained ain may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is sished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose. NO. 2495

# **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.

EB-28-95 TUE 16:30	HAZMAT INFORMATION	FAX NO. 5012731948	P. 02
· ·	PECIALTY OIL	COMPANY, INC.	
		AL SAFETY DA	TA SHEE
		PREEZS" AND "AUTO-GARD	ji
NAME: WAL MART ANTI Specialty Oil Company Synonyms: Ethylene Chemical Family: EPA	Product Code S2100 Glycol Cas #107-21-1 Ity Oll Company, Inc.	CAS Registry No.: major components r combination of 107- Transportation Emerg (800) 424-9300 (c Product Information (318) 687-8000	nay be some 21-1 ency No.: hemtrecl
11. HAZARC	OUS INGFEDIENTS	HAZARD DATA	
Hazard Determination: Health Effect Pro Ethylene Glyce Physical Effect Pi Prode Li/Mixtu	of roperties:	Toxic to nervous syst and liver. Not applicable	em, kidney
Appearance and Odor:		uid: Mild glycol odor.	
Boiling Point (°F) Vapor Pressure (mmHc 'apor Density (Air=1) Jolubility in Water	320 0.05 2.14 Completelγ	Specific Gravity (H20=1) \$ Volatile (by volume) Evaporation Rate ( =1)	<u>1.125</u> <u>NA</u> NA
IV. REACTI	VITY DATA	STABLE: X U	NSTABLE:
lazardous Decomposition glycol.	on Products: Carbon d	lioxide, carbon monoxide, va	pors of ethylene
Conditions To Avoid:	Strong oxidizing agent	5.	
lazardous Polymerizati	on: Will not occur.		
	. •		
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		•••	
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FEB-28-95 TUE 16:30	HAZMAT INFORMATION	FAX NO. 5012731948	P. 03
		CAS Regis	stry No.: 107-21-1
FIRE AND	EXPLOSION HAZARD DA	ATA LFL: 3.2	UFL: 15.3
Flash Point (Method us Handle and store in ac	ed): <u>230°F (PMCC)</u> cordance with NFPA proc	cedure for Class III B Co	ombustible Liquid.
Extinguishing Media: carbon dioxide.	Use water spray, dry ch	nemical, alcohol resistant	foam, or
If leak or spill ha to provide protect	rocedures: Use water to s not ignited, use water ion for men attempting t Is away from exposures.	spray to disperse the v	apors and the transmission of transmission of the transmission of transmissio
carbon dioxide and space without proj If water evaporate	osion Hazards: Products d other toxic materials. per protective equipment es off, residual materials can be produced.	Do not enter enclosed o including respiratory p	r confined
National Fire Protection Health <u>1</u> Fire <u>1</u>	Agency (NFPA) CLASS Reactivity <u>0</u>	Least - 0 Slight -	ARD RATING 1 Moderate - 2 Extreme - 4
VI. TRANSPO	ORTATION AND STORAC	DOT HAZAR	D CLASS: Not Applic
Precautions To Be Take	en In Handling And Stor Code No. 30-1984. Store	ing: Product is Class I	11 B Combustible
Shipping Paper Descrip	tion: Not D.O.T. Regu	lated.	
Placard: Not D.O.T. f	Regulated.		
Label: Not D.O.T. Re	gulated.		
VII. HEALTH	HAZARD INFORMATION	····	
PEL <u>None available</u> Ceiling Value <u>50 ppm or</u>	TLV 50 ppm or 125 mg		· · · · · · · · · · · · · · · · · · ·
*These values are for e			
	posure/Entry: Skin, ini	halation	
Signs and Symptoms of No adverse health	Exposure/Medical Condit effect has been identifie mation has been included	lons Aggravated By Exp d specifically for this p	roduct.
September 12, 1985			

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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, lpwer 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.

### 1X. 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

FEB-28-95 TUE 16:32



CAS Registry No.: 107-21-1

### ×. 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.

The above data is based on tests and experience which Specialty believes reliable and are supplied for informational purposes only. Specialty DISCLAIMS ANY LIABILITY FOR DAMAGE OR INJURY WHICH RESULTS FROM THE USE OF THE ABOVE DATA AND NOTHING CONTAINED THEREIN SHALL CONSTITUTE A GUARANTEE, WARRANTY (INCLUDING WARRANTY OF MERCHANTABILITY) OR REPRESENTATION (INCLUDING FREEDOM FROM PATENT LIABILITY) BY SPECIALTY WITH RESPECT TO THE DATA, THE PRODUCT DESCRIBED, OR THEIR USE FOR ANY SPECIFIC PURPOSE, EVEN IF THAT PURPOSE IS KNOWN TO SPECIALTY.

September 12, 1985



December 8, 1998

DEC 1 0 1998

RECEIVED

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

ENVIRONMENTAL BUREAU OIL CONSERVATION DIVISION

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.

On Site Technologies, Ltd. Four-Four Inc. DeLasso Loop Road Spill December 8, 1998 Project No. 4-1532

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, reseeded 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

2

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,  $\mathbf{n}$ Larry Trujillo, C.H.M.M.

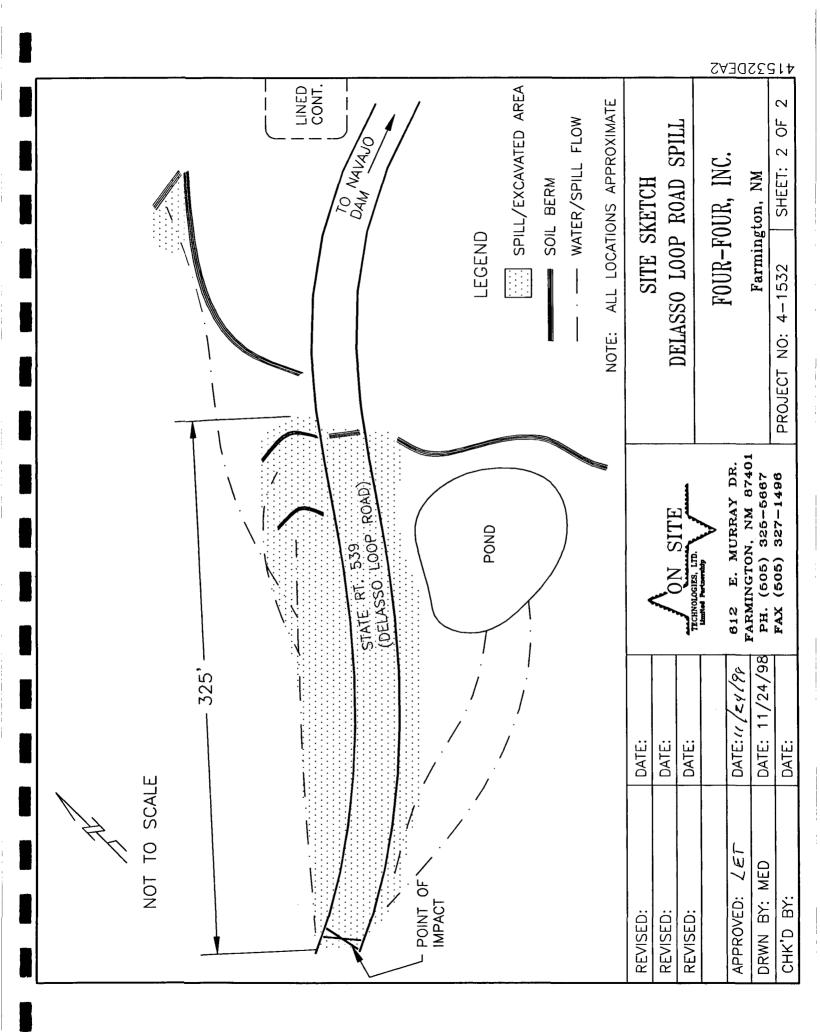
Sr. Environmental Technician

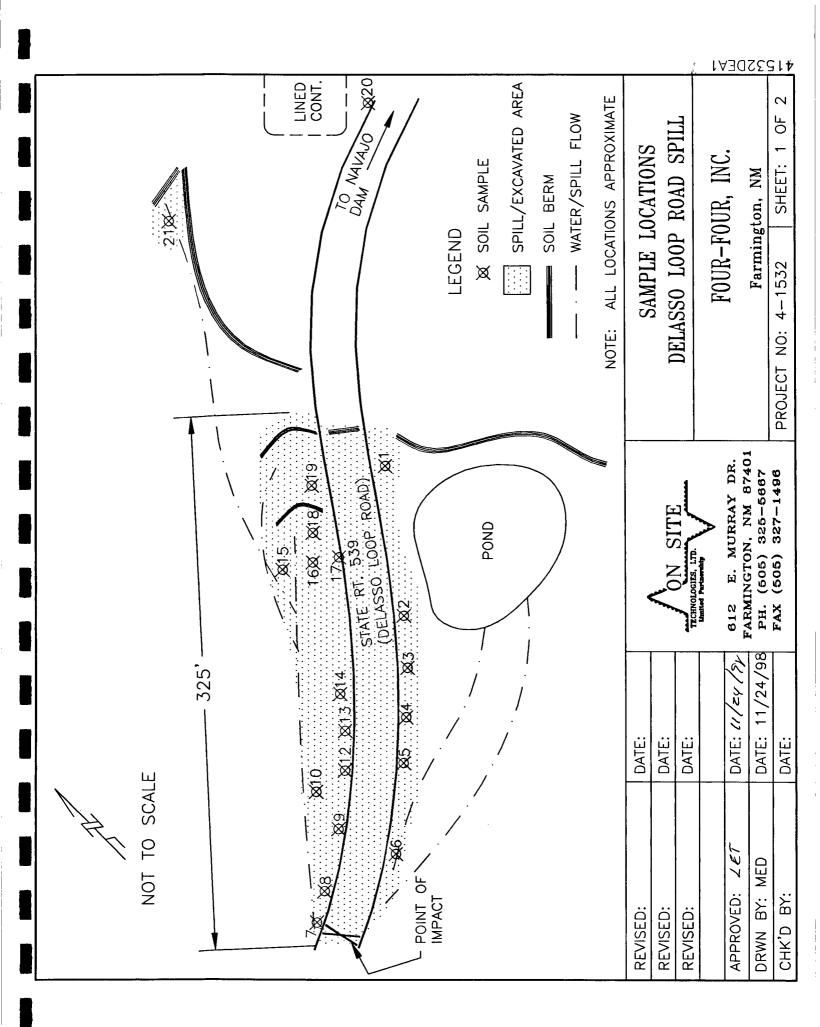
Attachments:

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





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

TPH, WATE (PPM)	14.0		
TOTAL XYLENE (PPB)	1440		620
ETHYLBENZENE TC (PPB)	98		750
TOLUENE (PPB)	062		750
BENZENE (PPB)	170		10
	VACCUMED WATER	SAMPLE	NWWOC

E E E

		(b			
		Sliver (Ag)		<0.05	0.05
		ļ			
		Selenium (Se)		¢.1	0.05
		Selenii		V	ö
		(qc	1		
		-ead (Pb)		₹.0×	0.05
		1			
		Chromium	(c)	0.085	0.05
	,7470	ರ —			
RCRA METALS PPM	s 6010	Cadmium	(p)	<0.05	0.01
Nel Ro Mel Ro Mel Ro	EPA METHODS 6010, 7470	Cad	Q	V	0
	EPA N	(Ba)			
		Barium (Ba)		8.65	1.0
		Arsenic (As)		<0.1	0.1
		Arse		v	
		Hg)		5	0.05
		Mercury (Hg		<0.0005	0
		Me		v	<b>WOC</b>
					NN

### WILDLIFE DRINKING POND TABLE #2

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

		Table		
SAMPLE NUMBER	PID	TIME	DATE	8015.MOD DRO RESULTS
	UNITS			(PPM)
East side 1	0.0	1101	10/28/9 <b>8</b>	BDL
East side 2	43.2	1112	10/28/9 <b>8</b>	780
East side 3	65.1	1117	10/28/9 <b>8</b>	1400
East side 4	11.6	1118	10/28/9 <b>8</b>	N/L
East side 5	1.4	1119	10/28/9 <b>8</b>	N/L
East side 6	52. <b>3</b>	1120	10/28/9 <b>8</b>	1100
West side 7	2.0	1204	10/28/9 <b>8</b>	BDL
West side 8	1.4	1205	10/28/9 <b>8</b>	N/L
West side 9	1.2	1327	10/28/9 <b>8</b>	N/L
West side 10	1.9	1328	10/28/9 <b>8</b>	N/L
West side 12	1.0*	133 <b>6</b>	10/28/98	N/L
West side 13	1.0*	1342	10/28/9 <b>8</b>	BDL
West side 14	1.0*	1345	10/28/98	N/L
West side 15	1.0*	1424	10/28/9 <b>8</b>	26
West side 16	1.0	1425	10/28/98	N/L
West side 17	30.2	1426	10/28/9 <b>8</b>	9400
West side 18	0.9*	1427	10/28/9 <b>8</b>	N/L
West side 19	29. <b>6</b>	1429	10/28/9 <b>8</b>	860

### LABORATORY RESULT FOR SOIL SAMPLING Table #2

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

> 8015 MOD DRO RESULTS SAMPLE NUMBER DATE (PPM) Down Gradient 20 10/29/98 BDL BDL Down Gradient 21 10/29/98 3 Pt. Composite 10/30/98 130.**0** Containment area S-22 2 Pt. Composite 10/30/98 100.**0** Containment area S-23

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

		TOTAI RTFX					anitability	<u>,</u>	Negative	
		TOTAL XYLENE	31100			1				
	8020 BTEX PPB	ETHYLBENZENE	4600			RCI/	Corrosivity	1	7.88	
		TOLUENE	8				tivity	Sulfide	BDL	
		Tolt	4900		SCI		Reactivity	Cyanide Sulfide	BDL	
- 0100-		BENZENE	410		TCLP/RCI			Ag	BDL	
								Se	BDL	
	10	GRO	440.0					Ър	BDL	
	8015 PPW	0	0.0			METALS PPM		ບັ	BDL	
		DRO	16000.0			ME		р С	BDL	LIMITS
								Ba	1.02	<b>BDL, BELOW DETECTION LIMITS</b>
			6-PT. COMPOSITE	ILE				As	BDL	BDL, BELOW
		SAMPLE	6-PT. CC	STOCKPILE				Вг	BDL	

				$\Sigma$			<u>TE POLICE</u>	8.8	0546				
	ON		FATAL	INJURY	PROF		TMENT UNDER \$500		ND RUN	STATE	OF NEW	MEXICO	)
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n i	THE <b>R</b> ROPER <b>TY</b>	NONE	Owner's l	Name		Owner's Add	ress/Zip Co <b>de</b>		AIHe		6.	Shoulder Har Bell & Harne	ss-Used
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r	LIGHTING	WEATHER	ROAD COND.	ROAD SURFACE	TRAFFIC CO	ONTROL	RO	AD CHARA	CTER	R	OAD DES	IGN
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Use	Supplemental Diag	ram/Narrative She	eet for additional infom ccurred). ON SUP	nation PLEMENTAL								Indicate North by Arrow
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	A NO. 1	<sup>Name</sup> ROBERT G	RIJALVA	•	Violation CARELE	SS/NC	) SEA	T BELT		W B	c ⊠	Citation No. 3008214 3008215
O R	T VEH. I NO. 1	Name ROBERT G	RIJALVA -		Violation QUALIFI	CATI	ON O	F DRIVE	R	W B .	C ⊠	Citation No. 3008216
E M T	N VEH. NO. 1	<sup>Name</sup> ROBERT G	RIJALVA		Violation TRANS.			٩T		W B	с Х	Citation No. 3008217
Tim 122	e Notified		Time . 1300	Arrived		Notifie DISI	ed By PATC	н	Supvr. a	it Scene	ON	Checked il
	cer's Signature	1	1300			Rank PTL		<sup>1D No.</sup> 162	District 10		port	
L	MILIN				· · · ·	l		·				

<b>3</b>			
<b>F</b>	HAZARDOUS MATERIALS	STATE POLICE SEMERGENCY RESPONSE CIDENT REPORT	
<b></b>	OT OFI NM NM NSALOCO 02 G	EO 1031 FILE NUMEER	
		$H \mathcal{Q} \mathcal{K}$	1012
	04   DATE & TIME   (0	DATE & TIME 05 T PE: Acciden	• X
Ξ	10/27/94 1314	T SE Incident	
V V	06 Premise Type: 07 SPECIFIC	SLOCATION: STATE ROAD 5	39
EN	2 Commerce 6 Rail Yard		9
τ	4 Eusiness 6 Cther		, /
	08 COMPLAINANT NAME:	SOUTH OF SR 511,	PHONE RES.
		1 man Armant	
	ADDRESS OF LAND	CITY MANAGIMENT	PHONE BUS.
	12 35 LA PLATA Itwy 09 CARRIER NAME:	FARMINGIEN NM PERSON CONTACTED (Carrier)	599-8900
Ç	09 CARRIER NAME:	PERSON CONTACTED (Carrier)	PHONE RES.
Ĥ	FOUR FOUR INC.	FRED CAMACTO	326-6417
Cárre-Lin		CITY STATE FARMENGRON NM	PHONE BUS.
	P.O. BOX 3860	PERSON CONTACTED (Shipper)	327-6041 PHONE RES.
S. H	Four Four Dur	FRED CAMACITO	326-6417
р.р.шtr	FOUR FOUR INC. ADDRESS	FRED CAMACITO CITY STATE	PHONE BUS.
E F	PG BCX 3560	FARMINGTEN Not	3276041
D. R	11 DRIVER NAME:	SOC. SEC. NO: DOB:	
V	GRIJALUA, ROBERT ADDRESS	SUC. SEC. NO: DUB: 585-23-57/1 12/2 CITY STATE	04/74
ER	#11 CR 3192 1	AZTEC NM	8203711
	12 MAKE MODEL		
V E H	FORD TK	88 IFDXK84A-JVA	55211
	LICENSE NO. LIS LIY NUMBER OF	CF CARS NO.(s)	DAR N/A
	IZRE 1077 Nr PERM TRAIN	EILLOFLADING ON SCENE (BILLOFLAD	
	LICENSE NO. LIS LIY NUMBER OF CARSON IS VEHICLE PLACARDED PLACARD NO. 13 VEHICLE PLACARDED PLACARD NO. 14 Ves 1203	2 Yes 20-	15
	14 NAME OF MATERIAL (Shipping Name)	MATERIAL LIN 1.2	>3
M' A.	I DEESEL FUEL & WASK	DOT 147	703
T	3. ANTI FREEZE		
E. Fr	REFERENCE MATERIAL USED: EMERGENCY RESPONSE	SUFAF BUT	·
1.	15 Material Type: 16 Shipped By:	17 Load is:	
At. L	1 Explosive 5 Percxide 1 Trailer		Empty
	2 Gas     6 Poison     2 Box Car       2 Liquid     7 Radioactive     3 Tank Truck       4 Solid     8 Corrosive     4 Tank Car	7 Air Cargo 3 Partial	5 Unknown 5 Other
	Iduid     7     Radioactive     3     Tank Truck       Isolid     8     Carrosive     4     Tank Car	8 Other	·
	18     Package/Container:     19     Material Release       I Bulk     5     Cylinder     I Leak		mability:
	1     Bulk     5     Cylindes     1     Leak     X       2     Orum     X     Sarrei     X     Spill     7       X     Box     7     Bag     3     Vacors     8	Airborne 2 Yes 2 Ouite	210
	4 Carton 8 Other 4 Dust 9	None         Image:	
¶ł	Placarced: X No 2 Yes		

	II 1221 Hignway Acutes  23  Area Type:  24  Terrain Involved:
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	25 Weather Conditions: 26 Department Required:
	23       Weather Conditions:       Department Required:         1       Clear       5       Other       Other       DirectionST         2       Ptly Cloudy       7       TempF       Plining <u>ANKAbird</u> 1       City Police       Highway Dept.         3       Overcast       7       TempF       11       Snowingin.       Fire Decartment       7       Volunteers       RLM         Stormy       Winempn12       Visibilitymi.       Ambulance/Medical       Other       Cother
	28 Equipment Required: 29 Release Contained:
	1     Full Gear     7     Ear Protection     Loader     1     No       2     Full Bunker     Hard Hats     2     Buildozer     1     Yes       3     Rad. Suit     9     Ereathing     Dump Truck     Yes       Gloves     Accaratus     1     Crane     Crane       Soots     10     Cther     5     Other
.	30 Public/Residents: 31 Response Personnel:
	1       Exposed       5       Rescued       5       Rescued         2       Contaminated       6       Fatal       2       Contaminated       6       Fatal         3       Injured       N/A       3       Injured       N/A       8       Other         4       Evacuated       8       Other       4       Evacuated       8       Other
	132 Evacuation Distances: 50 YARDS
NARRATIVE	33 Description of Commodity (Physical), i.e. color, odor, etc:       DIESEL FUEL, WASTE OD AND         ANTEREE
	ON SETE TRETE MOLOGIES.
	Comments: SEE SUPPLEMENTAL
┢	Adequacy of Data
A D M	37     Reference Guides     38     Response Personnel     39     Overall
   N 	1     Poor     3     Moderate     1     Pcor     3     Moderate       2     Fair     5     Limited     5     Limited     1     Poor     3     Moderate
S T R A T	140 District Emergency Response Officer Social Security Number
	ERIC BURNHAM 141 HMER Administrator CAPT. BROCKMEIER Social Security Number

### STATE OF NEW MEXICO UNIFORM ACCIDENT REPORT SUPPLEMENTAL DIAGRAM/NARRATIVE

ON 10-28-98 AT ABOUT 1220HRS I WAS NOTIFIED BY DISPATCH OF A ONE VEH. ACCIDENT WITH NJURIES 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 WE**ST**.

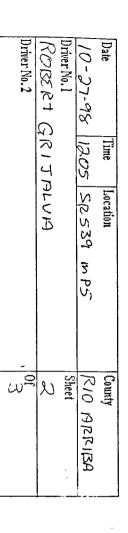
THE DRIVER WAS WALKING TO THE AMBULANCE WHEN I CONTACTED HIM. HE STATED THAT HE WAS TRAVELING NORTH ON SR 539, GOING DOWN A HILL. HE THEN STATED THAT WHEN HE APPLIED THE BRAKES THE VEH. WOULD NOT SLOW DOWN. HE TRIED TO DOWN SHIFT BUT HE VAS ALREADY TRAVELING TO FAST AND WAS UNABLE TO PUT THE VEH. IN A LOWER GEAR. HE UT 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 O SLIDE. THIS IS WHEN THE VEH. STARTED TO SKID BROADSIDE (COUNTER CLOCKWISE) AND URN OVER ON IT'S SIDE, SLIDING TO A STOP IN THE MIDDLE OF THE ROAD.

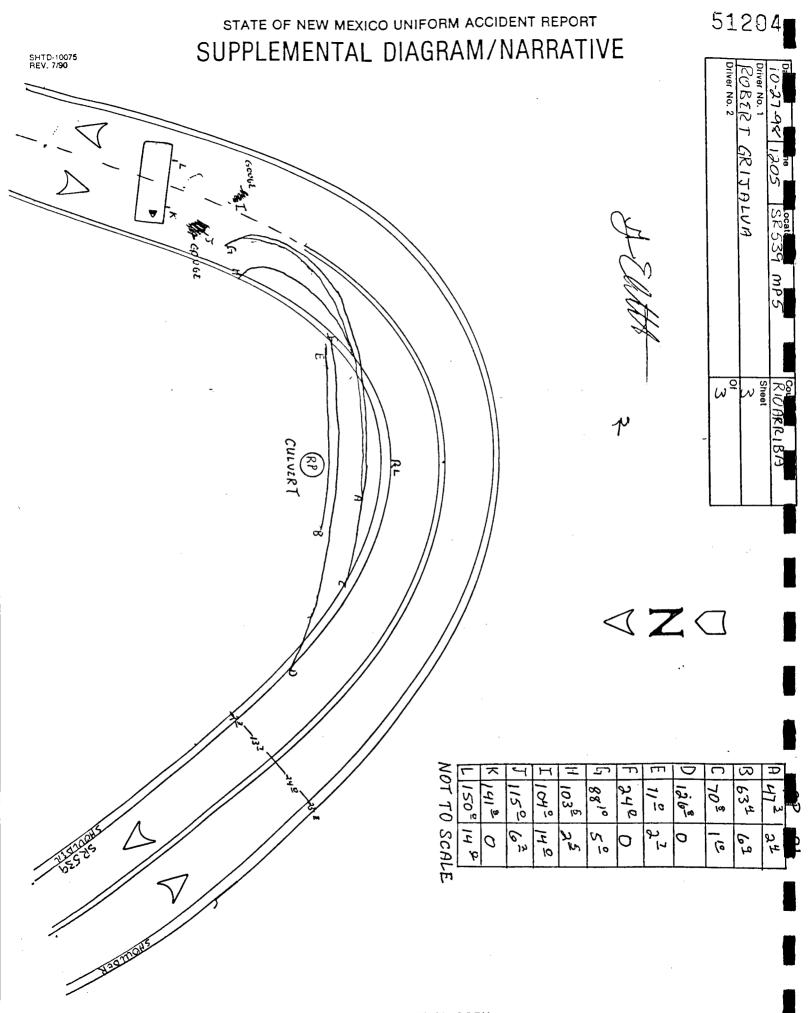
ON 10-28-98 AT ABOUT 1100HRS I MET WITH OFFICER CARL HENDERSON, WHO WORKS FOR MOTOR TRANSPORTION DIVISION, AT HI RIDGE TOWING YARD. THIS IS WHERE VEH-1 WAS IAKEN AFTER THE ACCIDENT. OFFICER HENDERSON THEN PERFORMED AN INSPECTION ON THE BRAKE SYSTEM. THE FRONT BRAKES APPEARED TO BE IN WORKING CONDITION, THE BRAKE LINES WERE IN GOOD CONDITION, THE LEFT REAR BRAKE LOOKED LIKE IT WAS WITHIN LEGULATION, 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 NDICATES 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 YEH. 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 YEHICLE TO PULL TO HIS LEFT. HIS VEH. WENT COMPLETELY OFF THE ROAD AND WHEN HE RIED 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. HE HAZ-MAT SPILL WAS HANDLED BY OFFICER ERIC BURNHAM.

J Ellitt





ISSUING AGENCY COPY

UAR Accident Report #	Truck a	nd	Βι	IS			
Supplen	nental A	ACC	Ide	ent H	ep	ort	
ACCIDENT MUST HAVE INVOL ACCIDENT MUST HAVE INVOL Condition #1: A truck with at least 2 a and/or A vehicle with Hazmat A bus with seats for people (including drive	LVED axles or 6 tires; t placarding; or more than 15	AND	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	AST ONE O : D Per Z Inju for I	F THE son(s) : red pers medica	FOLLO latally ir son(s)ta l attentio	WING OCCURRED: njured. aken from the scene
Carrier Name FCUR FCUR INC Carrier Address PO BOX 3860 FARMINGTO Carrier ID # US DOT #	ACCIDENT IN				State		e: X Vehicle Side Shipping Papers Driver State #
VEHICLE CONFIGURATIO UBUS Single unit truck, 2 axle, 6 tire Single unit truck, 3 or more axle Truck / Trailer Truck Tractor (bobtail) Tractor / Semitrailer Tractor / Doubles Unknown heavy truck	N .		Cargo Flatbe Dump Concr Auto T Garba	r Enclose Tank e <b>d</b>	d Box		PE
Weight Rating 36000 lbs. In H A Was Hazardous XYES Fr Z Cargo Released INO In A from the Vehicle?	xles on Vehicle acluding Trailer rom Placard, adicate 4 Digit lacard Number			Number of Injuries Indicate Na from Diam	l ame		Number of Fatalities <i>D</i> Indicate Single Digit Number from Bottom <i>3</i> of Diamond
TSEQUENCE OF EVENTS① 2 3 4Ran Off the Road1 2 3 4Jackknifed1 2 3 4Overturned1 2 3 4Downhill Runaway1 2 3 4Cargo Lost or Shifted1 2 3 4Explosion or Fire1 2 3 4Separation of Units1 2 3 4Collision Involving Pedestri1 2 3 4Collision Involving Vehicle1 2 3 4Collision Involving Parked1 2 3 4Collision Involving Parked1 2 3 4Collision Involving Train1 2 3 4Collision Involving Pedalcy1 2 3 4Collision Involving Fixed O1 2 3 4Collision Involving Fixed O1 2 3 4Collision Involving Other O1 2 3 4Collision Involving Other O1 2 3 4Collision Involving Other O	rian in Transport Vehicle /cle 0bject	aka a a a a a a a a a a a a a a a a a a	Divide Divide One w No con Full co	nysically div d highway, d highway, vay traffic ACCI ntrol, unlimi pntrol, only	mediar mediar ESS C( ted acc ramp el	n strip, r n strip, v ONTRO cess ntry and	no traffic barrier with traffic barrier

### New Mexico State Police Hazardous Materials Response Accident/Incident

### Supplemental form

### page\_2 of\_2\_

### CONTINUATION OF: NARRATIVE

HAZMATNO. H 1498 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.

11-6-94

£В

O. Box 1980         Energy Minerals and Nature           Jobbs, NM 88241-1980         Energy Minerals and Nature           Jobbs, NM 88241-1980         Oil Conservat           Jobbs, NM 88241-1980         Oil Conservat           Jobbs, NM 88210         2040 South Provided South Provi		ces Denartm		Forn	
1       South First       Oil Conservat         1       South First       2040 South Program         rtcsia. NM 88210       Santa Fe, New Program         Nistrict III - (505) 334-6178       Santa Fe, New Program         Off Rub Brazos Road       (505) 82	ion Divis	cco Departin	nent	Originat	ed 2/13/97
1         South First         2040 South Processing, NM 88210           rtcsing, NM 88210         South Processing,		•			
Interset         Interset         Interset         Santa Fe, New I           Interset         III - (505) 334-6178         Santa Fe, New I           Interset         Interset         Interset           Interset         Interset         Interset           Interset         Interset         Interset	schern Stre			Submi	t 2 copies to
0 Rio Brazos Road (505) 82				Approp	date District
NIA 97410		03		Office in	accordance
	-/ 151				Rule 116 on
listrict IV - (505) 827-7131					elde of form
Release Notification a	and Correct	tive Action			
OPE	RATOR			Initial Report 🛛 I	inal Report
Name i	Contac				
Four-Four Inc.		Mike H	al <b>l</b>		
A ress	Telepho				
3000 Bloomfield Hwy. Farmington, NM 87401		505-	327-27	711	
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	J	N	/ A		
Surface Owner Mineral Owner			1	Lease No.	
BLM/BOR BLM/BOR				N/A	
LOCATION C					
I Letter Section Township Range Feet from the North/South Line	Feet from the	East/West Line	County	7	
H 24 29N 8W N/A N/A	<u>N/A</u>	N/A	San	Juan	
		•			
NATURE OF					
The of Release		of Reicase	1	Volume Recovered	11
Diesel, New and Used Oil		ox. 800 gal	_	approx. 760	
Source: of Release	Date al	a Hour of Occurren		Date and Hour of Disco	•
Field Service Vehicle Overturned		/27/98 131	4	10/27/98 1	314
Was Immediate Notice Given?		To Whom?			
g w hom?		<u>istrict II</u> nd Hour	Offic	е	
		Unkn			
Cindy Gray	IF YES	, Volume Impacting		COURSE.	······································
XX Yes No					
	<u>_</u>	800 gallon	<u>.s</u>		
IT a Watercourse was Impacted, Describe Fully, (Attach Additional Sheets If Necessar	.y)				
See attached sheets					
see attached sheets					
Describe Cause of Problem and Remedial Action Taken. (Attach Additional Sheets If	Necessary)				
	((((())))))			:	
See attached sheets					
	essary)				
See attached sheets	essary)				
See attached sheets	essary)				
See attached sheets	essary)			****	
See attached sheets Incribe Area Affected and Cleanup Action Taken. (Attach Additional Sheets If Nece See attached sheets	- 				
See attached sheets for the Area Affected and Cleanup Action Taken. (Attach Additional Sheets If Nect See attached sheets	knowledge and u	inderstand that purs	suant to N	VMOCD rules and regulation	ons all operator
See attached sheets terribe Area Affected and Cleanup Action Taken. (Attach Additional Sheets If Nece See attached sheets   here by certify that the information given above is true and complete to the best of my a required to report and/or file certain release notifications and perform corrective action -1-41 report by the NMOCD marked as "Final Report" does not relieve the operator of	knowledge and u ons for releases w f liability should	hich may endanger, their operations hav	public hea ve failed to	alth or the environment. T o adequately investigate ar	he acceptance o d remediate
See attached sheets terribe Area Affected and Cleanup Action Taken. (Attach Additional Sheets If Nece See attached sheets I here by certify that the information given above is true and complete to the best of my a recuired to report and/or file certain release notifications and perform corrective action a -1-41 report by the NMOCD marked as "Final Report" does not relieve the operator of ta mination that pose a threat to ground water, surface water, human health or the em-	knowledge and u ns for releases w f liability should vironment. In ac	hich may endanger, their operations hav	public hea ve failed to	alth or the environment. T o adequately investigate ar	he acceptance o d remediate
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See attached sheets See attached and Cleanup Action Taken. (Attach Additional Sheets If Necr See attached sheets I here by certify that the information given above is true and complete to the best of my a recuired to report and/or file certain release notifications and perform corrective action a -1 41 report by the NMOCD marked as "Final Report" does not relieve the operator of d ta mination that pose a threat to ground water, surface water, human health or the error opera tor of responsibility for compliance with any other federal, state, or local laws and Shatture:	knowledge and u ns for releases w f liability should vironment. In a t/or regulations. Approved by	hich may endanger their operations hav idition, NMOCD at <u>OIL CO</u> sor <del>.</del>	public her re failed to comptance NSERVA1	alth or the environment. T o adequately investigate ar of a C-141 report does not	he acceptance o d remediate

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### **CERTIFICATE OF WASTE STATUS**

1. Generator Nan	no and Address.		Destination Name:
Four-Four Inc.	State Halanson		co Disposal
3000 East Bloom		1	nty Road 3500 c, NM 87410
Farmington, NM	0/401	AZIE	C, INVI 6741U
3. Originating Site	e (name):		Location of the Waste (Street address &/or ULSTR):
1/2 mile south of th	he Navajo Dam		M&R Trucking
State Route 539			400 Sandstone Ave.
Attach list of origi	inating sites as appro	opriate	Farmington, NM 87401
Hydrocarbon con	itaminated water Cal	usea from runoi	ff from an overturned field service truck.
	Mike Hall Four-Four I	νc.	do hereby certify that, according
to the Resource Co determination, the	Four-Four I	تند. very Act (RCRA) e is: (Check appr پیر/ NON-EX	do hereby certify that, according and Environmental Protection Agency's July, 1998, regula
to the Resource Co determination, the EXEMPT	Foue-Four To onservation and Recov above-described waste	تند . very Act (RCRA) e is: (Check appr پیک NON-EX analysis	do hereby certify that, according and Environmental Protection Agency's July, 1998, regula opriate classification) EMPT oilfield waste which is non-hazardous by character
to the Resource Co determination, the EXEMPT of and that nothing ha	Foue-Four I onservation and Recov above-described waste oilfield waste as been added to the e	very Act (RCRA) e is: (Check appr <u>v</u> NON-EX analysis exempt or non-ex	do hereby certify that, according and Environmental Protection Agency's July, 1998, regula opriate classification) EMPT oilfield waste which is non-hazardous by character or by product identification
to the Resource Co determination, the EXEMPT of and that nothing ha	Foue-Four I onservation and Recov above-described waste oilfield waste as been added to the e	ing documentatic	do hereby certify that, according and Environmental Protection Agency's July, 1998, regula opriate classification) EEMPT oilfield waste which is non-hazardous by character or by product identification tempt non-hazardous waste defined above.
to the Resource Co determination, the EXEMPT of and that nothing ha	Foue-Four I onservation and Recov above-described waste oilfield waste as been added to the e T waste only the follow	ing documentatic	do hereby certify that, according and Environmental Protection Agency's July, 1998, regula opriate classification) EMPT oilfield waste which is non-hazardous by character or by product identification tempt non-hazardous waste defined above. on is attached (check appropriate items): <u>X</u> Other (description): Preliminary Laboratory Resu
to the Resource Co determination, the EXEMPT of and that nothing ha	Foue-Four I onservation and Recov above-described waste oilfield waste as been added to the e T waste only the followingMSDS Information	تند . very Act (RCRA) e is: (Check appr <u>y</u> <u>X</u> NON-EX analysis exempt or non-ex ing documentatio on us Waste Analysi	do hereby certify that, according and Environmental Protection Agency's July, 1998, regula opriate classification) EMPT oilfield waste which is non-hazardous by character or by product identification tempt non-hazardous waste defined above. on is attached (check appropriate items): <u>X</u> Other (description): Preliminary Laboratory Resu
to the Resource Co determination, the EXEMPT of and that nothing hat For NON-EXEMPT	Foue-Four I onservation and Recov above-described waste oilfield waste as been added to the e T waste only the follow MSDS Information Chain of Custod gnature):	NC. very Act (RCRA) e is: (Check approved NON-EX analysis exempt or non-ex ing documentation us Waste Analysis by	do hereby certify that, according and Environmental Protection Agency's July, 1998, regula opriate classification) <b>EEMPT</b> oilfield waste which is non-hazardous by character or by product identification tempt non-hazardous waste defined above. on is attached (check appropriate items): <u>X</u> Other (description): Preliminary Laboratory Results is
to the Resource Co determination, the EXEMPT ( and that nothing ha For NON-EXEMPT 	Foue-Four I onservation and Recov above-described waste oilfield waste as been added to the e T waste only the followi MSDS Informatio Chain of Custod	A contract (RCRA) e is: (Check approved NON-EX analysis exempt or non-ex- ing documentation us Waste Analysis by C C Mana	do hereby certify that, according and Environmental Protection Agency's July, 1998, regula opriate classification) <b>EEMPT</b> oilfield waste which is non-hazardous by character or by product identification tempt non-hazardous waste defined above. on is attached (check appropriate items): <u>X</u> Other (description): Preliminary Laboratory Results is

1. Generator Name and Address: Four-Four Inc.	2. Destination Name: Tierra Environmental Co. Inc.
3000 East Bloomfield Highway	420 County Road 3100
Farmington, NM 87401	Aztec, NM 87410
3. Originating Site (name):	Location of the Waste (Street address &/or ULSTR):
½ mile south of the Navajo Dam	Tierra Environmental Co. Inc.
State Route 539	420 County Road 3100
Attach list of originating sites as appropria	Ite Aztec, NM 87410
1. M.ke Hall	representative for:
Four-Four Inc	do hereby certify that, according
	Act (RCRA) and Environmental Protection Agency's July, 1998, regulat
EXEMPT oilfield waste	<b>ON-EXEMPT</b> oilfield waste which is non-hazardous by characteristic analysis or by product identification
and that nothing has been added to the exem	pt or non-exempt non-hazardous waste defined above.
For NON-EXEMPT waste only the following d	ocumentation is attached (check appropriate items):
MSDS Information	XOther (description): Laboratory Results
RCRA Hazardous W	aste Analysis
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Chain of Custody	Hel
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OFF: (505) 325-5667



LAB: (505) 325-1556

### ANALYTICAL REPORT

Date: 20-Nov-98

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

Parameter	Result	PQL	Qual Units	DF	Date Analyzed
BTEX	SI	V8020A			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

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

l of l

OFF: (505) 325-5667



LAB: (505) 325-1556

### ANALYTICAL REPORT

Date: 20-Nov-98

Client:	On Site Technol	ogies, Limited Partnership	<b>Client Sample Info:</b>	Four-Fo	our
Work Order:	9810083		Client Sample ID:	Delusso	Loop Spill Water
Lab ID:	9810083-01B	Matrix: AQUEOUS	<b>Collection Date:</b>	10/28/9	8 11:00:00 AM
Project:	4-1532		COC Record	5585	

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

Surt: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

### ANALYTICAL REPORT

Date: 20-Nov-98

Client: Work Order:	On Site Technol 9810083	ogies, Limited Partn	ership		Sample In t Sample			
Lab ID:	9810083-02A	Matrix: AQUE	DUS	Col	lection D	ate: 10/	28/98	3 10:50:00 AM
Project:	4-1532			C	COC Reco	ord: 558	35	
Parameter		Result	PQL	Qual L	Inits	C	)F	Date Analyzed
BTEX		SV	V8020A					Analyst: HR
Benzene		ND	1		µg/L		1	11/3/98
Toluene		ND	1		µg/L		1	11/3/98
Ethylbenzene		ND	1	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 R - RPD outside accepted recovery limits

S - Spike Recovery outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

### P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



The Quality Sci. 1.1.

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

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### Analytical Report



The Quality Solution

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

Attn: Mr. David Cox Project: Metals Analysis

œ

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

ĩest	Analysis	Results as Received	Units		imit of Intitation
 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.





The Quality Solution

Page 2

Analytical Report

MSAI	Sample:	88896
MSAI	Group:	24665

On Site Technologies, Ltd.

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:

sisce l

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



CLJENT: Work Order: Project:	On Site Te 9810083 4-1532	On Site Technologies, Limited Partnership 9810083 4-1532	artnership					QC SUN	QC SUMMARY REPORT Method Blank	Y REPORT Method Blank	<b>IRT</b> lank
Sample ID: MB-54 Client ID:		Batch ID: 54 9810083	Test Code: E413.2 Run ID: TPH 1	E413.2 L	Units: mg/L 2A		Analysis SeqNo:	Analysis Date 11/2/98 SeqNo: 8253	Prep Da	Prep Date: 10/30/98	
Analyte		Result	Par	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Oil & Grease, Total Recoverable	Recoverable	Q	-		I I I						
Sample ID: MB-54		Batch ID: 54	Test Code: E418.1	E418.1	Units: mg/L		Analysis	Analysis Date 11/2/98	Prep Da	Prep Date: 10/30/98	
Client ID:		9810083	Run ID:	TPH 1_981102B	B		SeqNo:	8401			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	LowLimit HighLimit RPD Ref Vat	%RPD	RPDLimit	Qual

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

nits B - Analyte detected in the associated Method Blank

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LTD.
Site Technologies, I
On S

CLIENT: On Site Technologies, Limited Partnership Work Order: 9810083

4-1532

Project:

**Date:** 20-Nov-98

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QC SUMMARY REPORT

Sample Duplicate

Sample ID: 9810085-10BD	Batch ID: 54	Test Code: E413.2	E413.2	Units: mg/L		Analysis	Analysis Date 11/2/98		Prep Da	Prep Date: 10/30/98	
Client ID:	9810083	Run ID: TPH 1	TPH 1_981102A	2A		SeqNo:	8262				
Analyte	Result	PQL	SPK	vałue SPK Ref Val	%REC	LowLimit	%REC LowLimit HighLimit RPD Ref Val	D Ref Val	%RPD	RPDLim	Qual
Oil & Grease, Total Recoverable	63 63	10	0	0	0.0%	0	ο	24.62	87.6%	15	5 R 60 90
											ark 11/22/14

ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits

Qualifiers:

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S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

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On Site Tecl	On Site Technologies, LTD.								Da	<b>Date:</b> 20-Nov-98	-98
CLJENT: Work Order: Project:	On Site Technologies, Limited Partnership 9810083 4-1532	nited Partner	rship					QC SUMMARY REPORT Laboratory Control Spike - generic	<b>MMAR</b> Control 2	Y REPC Spike - ge	<b>DRT</b> neric
Sample ID: LCS-54	Batch ID: 54	Tes	Test Code: E413.2	E413.2	Units: mg/L		Analysis	Analysis Date 11/2/98	Prep Da	Prep Date: 10/30/98	
Client ID:	9810083		Run ID: 7	TPH 1_981102A	02A		SeqNo:	8255			
Analyte	Ŗ	Result	PQL	SPK value	SPK value SPK Ref Val	%REC	LowLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit	Qual
Oil & Grease, Total Recoverable		7.65	~	8.3	0	92.2%	80	120			i
Sample ID: LCS-54	Batch ID: 54	Tes	Test Code: E418.1	E418.1	Units: mg/L		Analysis	Analysis Date 11/2/98	Prep Da	Prep Date: 10/30/98	
Client ID:	9810083		Run ID: 1	TPH 1_981102B	<b>12B</b>		SeqNo:	8403			
Analyte	R	Result	PQL	SPK value	SPK value SPK Ref Val	%REC	LowLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit	Qual

120

80

92.2%

0

8.3

S

7.65

Petroleum Hydrocarbons, T/R

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits

J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit

Qualifiers:

I of I

B - Analyte detected in the associated Method Blank

~	<b>T</b>		2ual	Qual	
<b>Date:</b> 20-Nov-98	QC SUMMARY REPORT Calibration Verification Standard	ate:	%RPD RPDLimit Qual	ate: RPDLimit	
ã	<b>MMAR</b> n Verifio	Prep Date:	%RPD	Prep Date: %RPD R	
	QC SUMMARY REPORT Continuing Calibration Verification Standard	85	%REC LowLimit HighLimit RPD Ref Val 03.2% 80 120	Analysis Date <b>11/2/98</b> SeqNo: <b>8402</b> LowLimit HighLimit RPD Ref Val	
	Continu	Analysis Date 11/2/98 SeqNo: 8254	HighLimit	Analysis Date 11/2/98 SeqNo: 8402 wLimit HighLimit R	120
		Analysis SeqNo:	LowLimit 80	Anatysis SeqNo: LowLimit	80
			%REC 103.2%	%REC	103.2%
		Units: mg/L 2A	SPK value SPK Ref Val 124 0	<b>418.1</b> Units: <b>mg/L</b> PH 1_981102B SPK value SPK Ref Val	0
		E413.2 L	SPK value 124		124
	artnership	Test Code: E413.2 Run ID: TPH 1_	PQL 20	Test Code: E Run ID: T PQL	5
, LTD.	On Site Technologies, Limited Partnership 9810083 4-1532	Batch ID: 54 9810083	128	Batch ID: <b>54</b> 9810083 Result	128
hnologies	On Site Tec 9810083 4-1532		Recoverable		rbons, T/R
On Site Technologies, LTD.	CLIENT: Work Order: Project:	Sample ID: CCV1 Client ID:	Analyte Oil & Grease, Total Recoverable	Sample ID: CCV1 Client ID: Analyte	Petroleum Hydrocarbons, T/R

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S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits

Qualifiers:

ented recovery limits

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B - Analyte detected in the associated Method Blank

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Image: Construction of the formation of the	CLJENT: Work Order: Proiect:											
Diminision         Batch ID: GC-1_991103         Test Code: \$4%020A         Units: pg/L         Aaalysis Date 11/396         Prep Date:           910063         Run ID:         GC-1_981103         Seq.Vo:         Seq.Pol         RPDLmmit         Fig.Plm         RPDLmmit		On Site Technologies, Limited Pa 9810083 4-1532	artnership						QC SUN	AMAR	Y REP(	<b>JRT</b> 3lank
91003     Run ID:     6C-191103     Servic:     847       Rsuit     POL     SK Raf Valie     %REC     Low Imit     HPD Limit     %RPD     PPD Limit       Rsuit     701     3     1     %RPD     PPD Limit     %RPD     PPD Limit       Rsuit     2016     1      4     1      %RPD     PPD Limit       Result     2016     1     Analysis Dale     11498     Prep Date:       2017     1     Analysis Dale     11498     Prep Date:       213     2     Analysis Dale     11498     Prep Date:       214     POL     Srv value     Srv Ker Val     %REC     Low Imit       215     2     Analysis Dale     11498     Prep Date:       216     2     Srv value     Srv Ker Val     %REC     Low Imit       2112     1     1     Analysis Dale     11498     Prep Date:       2112     1     1     Srv value     Srv value     Srv value     Srv value       2112     1     1     1     No     Prep Date:     Srv value       2112     1     1     1     No     Prep Date:     Srv value       2113     1     1     1     No	Sample ID: MB1	Batch ID: GC-1_981103		SW8020A	Units: µg/L		Analysis	Date 11/3/98		Prep Da	ate:	
Result         POL         SFK Ref Val         %REC         LowLimit         RPD Ref Val         %RPD         RPDLimit           Rete         2016         1	Client ID:	9810083	Run ID:	GC-1_981103	8		SeqNo:					
150         1           Relevent         2016         1           No         1         2016           No         1         2015           Analysis Lat         2015         1           2751         1         2015           Analysis Lat         2015         1           2751         1         2           2751         1         2           2751         1         2           2751         1         2           2751         1         2           2751         1         2           2751         1         2           2751         1         2           2751         1         2           2751         1         2           2751         1         2           2751         1         1           2751         1         1           2751         1         1           2751         1         2           2751         1         2           2751         1         2           2751         1         2           2751         2     <	Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit		RPD Ref Val	%RPD	RPDLimit	Qual
Etele         2016         1           RBuly Ether	Benzene	.1591	-									ſ
Headyl Ether         423 21         1 1           2151         1 41         2151         1 2151           2151         1 31         2151         1 31           2151         1 31         1         2051           2151         1 31         1         2051           2151         1 315         1 2         2           21         201         201         34704           21         201         361063         3462           21         201         2         361063         3462           21         1         2         36106         362           21         1         2         36106         362           21         1         1         1         36106           21         1         1         1         1           21         1         1         1         1           21         1         1         1         1           21         1         1         1         1	Ethylbenzene	.2016	~									ر.
TBUNJ Ether       ND       1         A1       1       2751       1         A1       1       2       41       1         A1       1       Andysis Date 114/96       Pep Date:         A1       Batch ID: GC-198104A       SeqNo: 8462       Pep Date:         Batch ID: GC-198104A       SeqNo: 8462       SeqNo: 8462       Pep Date:         Batch ID: GC-198104A       SeqNo: 8462       SeqNo: 8462       Pep Date:         Batch ID: GC-198104A       SeqNo: 8462       SeqNo: 8462       Pep Date:         Batch ID: GC-198104A       SeqNo: 8462       SeqNo: 8462       Pep Date:         Batch ID: GC-198104A       SeqNo: 9462       SeqNo: 9462       Pep Date:         Batch ID: GC-198104A       SREC       LowLimit HighLimit RPD Ref Val       SRPD Ref Val         Batch ID: GC-198104A       1       Interview       Interview       Interview         Batch ID: GC-198104A       1       Interview       Interview       Interview       Interview         Batch ID: GC-198104A       Interview       Interview       Interview       Interview       Interview         Batch ID: GC-198104A       Interview       Interview       Interview       Interview       Interview       Interview	n,p-Xylene	.4253	2									۔
2751       1         AI       1       Analysis Date 11/498       Prep Date:         AI       Batch ID: GC-1_90104       Test Code: SW020A       Units: µg/L       Analysis Date 11/498       Prep Date:         Bittons       Run ID: GC-1_901104       SeqNo:       SedNo:       SedS       SedNo:       SedS         Result       PQL       SPX value       SPX ret Val       %/REC       LowLimit       HighLimit       RPD Ref Val       %/RPD Ref Val         Result       ND       1       SedNo:       SedS       SedNo:       SedNo       SedNo         Result       PQL       SPX value       SPX Ref Val       %/REC       LowLimit       HighLimit       RPD Ref Val       %/RPD Ref Val         Result       ND       1       ND       ND       ND       ND       ND       ND       ND       ND       ND       ND </td <td>Aethyl tert-Butyl Eth</td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Aethyl tert-Butyl Eth		-									
All       1       1         D: MB1       Batch ID: GC1_981104       Test Code: SW8020A       Units: µgL       Analysis Date 114/98       Prep Date:         9810083       Run ID: GC1_981104       Scelve: SW8020A       Units: µgL       Analysis Date 114/98       Prep Date:         9810083       Run ID: GC1_981104       Scelve: SW8020A       Units: µgL       Analysis Date 114/98       Prep Date:         Result       POL       SPK value       SPK Net Val       %REC       LowLimit       HghLimit       RPD Ref Val         Result       POL       SPK value       SPK Net Val       %REC       LowLimit       RPD Ref Val       %RPD       RPD Limit         Result       POL       SPK value       SPK Net Val       %REC       LowLimit       RPD Ref Val       %RPD       RPD Limit         Ret       ND       1	-Xylene	.2751	-									-
D: MB1     Batch ID: GC-1_991104     Test Code: SW9020A     Units: Jg/L     Analysis Date 11/498     Prep Date:       9910033     Run ID:     GC-1_991104     SeqNo:     8462     SeqNo:     8462       Result     PQL     SPK value     SPK Ret Val     %REC     LowLimit     HighLimit     RPD Initi       Result     PQL     SPK value     SPK Ret Val     %REC     LowLimit     HighLimit     RPD Initi       Rene     .1915     2	oluene	.41	-									7
9810083         RulD:         GC1_98104A         SedNo:         8462           Result         POL         SPK value         SPK Ref Val         %REC         LowLimit         RPD Ref Val         %RPD         RPDLimit           ene         .1915         1	Sample ID: MB1	Batch ID: GC-1_981104		SW8020A	Units: µg/L		Analysis	Date 11/4/98	~	Prep Da	ite:	
Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RP         RPD Limit           Return         ND         1         %REC         MIL         %RED         RPD Limit         RPD Ref Val         %RP         RPDLimit           Return         ND         1         1         1         %RED         RPD Limit         RPD Ref Val         %RP         RPDLimit           Return         ND         1	Xient ID:	9810083	Run ID:	GC-1_981104	A		SeqNo:	8462				
ene ND 1 ene	nalyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual
ene 1915 2 - 1915 2 - 11132 - 11 - 1132 - 11 - 1132 - 11 - 11	lenzene	QN	-									
T-Buby Ether 1915 2 T-Buby Ether ND 1 .1132 1 .1132 1	thylbenzene	QN	-									
r-Butyl Ether ND 1 ND 1 .1132 1 .1132 1	p-Xylene, אין p-Xylene	.1915	2									7
L 1.	lethyl tert-Butyl Eth		-									
	-Xylene	QN	<b>~</b>									
	oluene	.1132	-									~
All Not Detacted at the Department time?		ND Not Detected at the Demonting Limit		S Carl	ka Recovery cuteide	accented reco	wary limite	a	Analyte datacted	in the accord	ted Mathod D	1 not

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R - RPD outside accepted recovery limits

J - Analyte detected below quantitation limits

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LTD.	
On Site Technologies,	

On Site Technologies, Limited Partnership

9810083

Work Order: **CLIENT:** 

QC SUMMARY REPORT

**Date:** 20-Nov-98

<b>Project:</b> 4-1532											
Sample ID: 9811008-01AMS	Batch ID: GC-1_981103 Test Code:	Test Code:	SW8020A	Units: µg/L		Analysis	Analysis Date 11/3/98	98	Prep Date:	ate:	
Client ID:	9810083	Run ID:	GC-1_981103B	B		SeqNo:	8448				
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit		HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	218.4	ъ	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%	20	130				
o-Xylene	203	5	200	5.099	98.9%	78	107				
Toluene	205.9	Ω.	200	12.09	96.9%	74	116				
Sample ID: 9811008-01AMSD	Batch ID: GC-1_981103 Test Code: SW8020A	Test Code:	SW8020A	Units: µg/L		Analysis	Analysis Date 11/3/98	98	Prep Date:	ite:	
Client ID:	9810083	Run ID:	GC-1_981103B	8		SeqNo:	8449				
Analyte	Result	Par	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	217.5	ъ	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	ъ	200	12.09	94.1%	74	116	205.9	2.8%	14	

J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

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S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

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Sample ID:SartonS3-01AMSBatch ID: Gc-1_gB1104Tast Code:SMB020AInits: $\mu J M$ Analysis:Date 11496Client ID:Delusso Loop Spil9810083Rtn ID:Gc-1_gB1104SeqNo:843AnalyteResultPCLSpt: valueSPK Ret/valSeqNo:843Analyte557,310400174.9095.6%76118Barcene557,310400174.9095.6%7810Barcene495.210400174.9035.6%7810Barcene744.510400174.9035.6%7810Barcene744.510400174.9036.6%7810Barcene744.510400174.9036.6%7810Cluene744.51040079.7199.6%78116Cluene744.51079.1736.76116440Cluene744.570345.399.6%78116Cluene744.57079.17Analysis Date 114408Cluene74.9174.11674.01567.19141474116Cluene74.9174.11674.11674.11674.11474.114Cluene74.9174.11674.11674.11474.114Cluene74.9174.11674.11674.11474.114Cluene74.9174.11674.11474.11474.114 <t< th=""><th>4-1532</th><th></th><th></th><th></th><th></th><th></th><th></th><th>Sampl</th><th>QC SUMMARY REPORT Sample Matrix Spike</th><th><b>OR1</b> Spike</th></t<>	4-1532							Sampl	QC SUMMARY REPORT Sample Matrix Spike	<b>OR1</b> Spike
Industo Loop Spil         B310083         Run ID:         GC.1_981104A         SeqNo:	Batch ID: GC-1_981104	de: SW8020A	Units: µg/L		Analysis	s Date 11/4/	98	Prep Date:	ate:	
Result         POL         SPK value         SPK ket Val         wREC         LowLint         HighLint           Zene $557.3$ 10 $400$ $174.9$ $565\%$ $56$ $56$ $56$ $56$ $56$ $56$ $56$ $56$ $56$ $56$ $56$ $128$ Zene $455.3$ $10$ $400$ $174.9$ $95.6\%$ $56$ $116$ $455.2$ $1867$ $20$ $800$ $1118$ $93.5\%$ $67$ $100$ $414$ $10$ $400$ $73.53$ $93.5\%$ $70$ $100$ $414$ $10$ $400$ $73.53$ $93.5\%$ $74$ $116$ $1169$ $410$ $762$ $100$ $33.53$ $70$ $101$ $1190$ $100$ $310$ $1015$ $1015$ $1014$ $116$ $1190$ $102$ $1012$ $1012$ $1012$ $1014$ $1014$ $1190$ $1012$ $1012$ $1012$	9810083	Ŭ	¥.		SeqNo:					
Zene       557.3       10       400       174.9       95.6%       56       12         Zene       1867       20       800       1116       93.6%       67       10         ne       1867       20       800       1116       93.6%       67       10         ne       1867       20       800       1116       93.6%       67       10         ne       144       10       400       35.3       93.9%       70       10       10         ne       744.5       10       400       345.3       93.9%       70       10       10         ne       744.5       10       400       345.3       93.9%       70       10         116       10       400       345.3       93.9%       70       114         Dissologa-01AMSD       Batch ID: GC-1_981104       Test Code:       SM020A       Units:       93.9%       70       101         Dissologa-01AMSD       Batch ID: GC-1_981104       Test Code:       SM020A       Units:       94.4%       144         Dissologa-01AMSD       Batch ID: GC-1_981104       Test Code:       SM020A       Units:       94.4%       70       101 <tr< td=""><td></td><td></td><td>SPK Ref Val</td><td>%REC</td><td>LowLimit</td><td>HighLimit</td><td>RPD Ref Val</td><td>%RPD</td><td>RPDLimit</td><td>Qual</td></tr<>			SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
zene         495.2         10         400         103.2         98.0%         78         10           ne         1867         20         800         1118         93.6%         67         118           ne         144.5         10         400         293.6%         78         10           ne         144.5         10         400         293.6%         70         130           ne         1168         0         294.7         93.6%         70         130           10         106         294.7         93.6%         70         130           1168         94.0         79         74         146           1168         94.0         79         74         146           1168         94.0         78         146         146           1168         94.0         78         146         146           1168         70         70         146         146           1168         76         174         74         146           1168         76         78         146         146           1169         76         78         147         146           1			174.9	95.6%	56	128				:
me       1867       20       800       1116       93.6%       67       11         nr-Buryl Ether       414       10       400       2.82       102.8%       70       100         nr-Buryl Ether       744.5       10       400       2.82       102.8%       70       100         D: B#10083-01AMSD       Batch ID: GC1-g81104       Text Code:       Xun       1168       74       114       107         D: B#10083-01AMSD       Batch ID: GC1-g81104       Text Code:       Xun ID:       400       74       114       107         D: B#10083-01AMSD       Batch ID: GC1-g81104       Text Code:       Xun ID:       400       74       114       114         D: B#10083-01AMSD       Batch ID: GC1-g81104       Text Code:       Xun ID:       601       114       114         D: B#10083-01AMSD       Batch ID: GC1-g81104       Text Code:       Xun ID:       601       114         D: B#10083-01AMSD       Batch ID: GC1-g81104       Text Code:       Xun ID:       601       114         D: B#10083-01AMSD       Batch ID: GC1-g81104       Text Value       Free Value       701       114         D: B#10083       Run ID:       For       100       100       103	495.2		103.2	98.0%	78	107				
nrleutyl Ether       414       10       2.82       102.8%       70       101         D: T44.5       10       400       345.3       99.8%       78       10         D: T44.5       10       400       345.3       99.8%       78       116         D: S910083-014MSD       Batch ID: GC1-1981104       Test Code: SW8020A       Innis: $\mu gl$ 74       114         D: S910083-014MSD       Batch ID: GC1-1981104       Test Code: SW8020A       Innis: $\mu gl$ 74       114         D: S910083-014MSD       Batch ID: GC1-1981104       Test Code: SW8020A       Innis: $\mu gl$ 74       114         D: S910083-014MSD       Batch ID: GC1-1981104       Test Code: SW8020A       Innis: $\mu gl$ 74       114         D: S910083-014MSD       Ran ID: GC1-1981104       Test Code: SW8020A       Innis: $\mu gl$ Malysis Date 114/         D: S91083       Run ID: GC1-1981104       Fest Code: SW8020A       Innis: $\mu gl$ Malysis Date 114/         D: Plause       Plause       Plause       Plause       Plause       Plause         D: Plause       Plause       Plause       Plause       Plause       Plause       Plause         D: Plause       Plause       Plause       Plause       <			1118	93.6%	67	118				
T44.5       10       400       345.3       99.8%       78       10         D: 9910083-01AMSD       Batch ID: GC-1_981104       Text Code: SW8020A       Min: Ip/L       Analysis Date 11/4/2         D: 9910083-01AMSD       Batch ID: GC-1_981104       Text Code: SW8020A       Unit: Ip/L       Analysis Date 11/4/2         C Delusso Loop Spil       9910083       Run ID:       GC-1_981104A       Text Code: SW8020A       Mini: Ip/L         Analysis       Delusso Loop Spil       9910083       Run ID:       GC-1_981104A       Seq No: 8464         C Delusso Loop Spil       9910083       Run ID:       GC-1_981104A       Seq No: 8464       Me4         Zene       480       10       400       174.9       91.4%       56       78       10         Zene       1809       20       800       1118       86.4%       67       118         ArbUVI Ether       400.9       10       400       732       95.2%       74       116         rt-Butyl Ether       1132       10       400       74.0       74       74       116         rt-Butyl Ether       1132       10       20       74.4%       74       116         rt-Butyl Ether       1132       10	414		2.82	102.8%	70	130				
D:       100       10       400       794.1       50.3%       144       10         D:       9810083-01AMSD       Batch ID: GC-1_981104       Test Code: SW8020A       Units: $\mu JL$ Analysis Date 1146       Analysis Date 1146       Analysis Date 1146       Analysis Date 1146         :       Delusso Loop Spil       9810083       Run ID:       GC-1_981104       Test Code: SW8020A       Units: $\mu JL$ Analysis Date 1146       Analysis Date 1146         :       Delusso Loop Spil       9810083       Run ID:       GC-1_981104       SFK Ref Val       %REC       LowLimit       HighLimit         :       Fasult       PQL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit         :       540.5       10       400       174.9       91.4%       56       128         :       =       1809       20       800       1118       86.4%       67       118         :       =       103.2       94.3%       78       101.8%       76       78       107         :       =       103.2       94.3%       74       74       116         :       =       1132       10       400       794.7       84.4%			345.3 304 3	99.8% 20, 2%	78	107				
D: : : : : : : : : : : : : : : : : : :			194.7	93.3%	74	116				
Image: Constraint         Batton: Batton: Constraint         Constraint         SeqNo: SeqNo	Batch ID: GC-1_981104		Units: µg/L		Analysis	5 Date 11/4/	98	Prep Date:	ate:	
Result         PQL         SPK value         SPK ref Val         MSEC         LowLimit         HighLimit           540.5         10         400         174.9         91.4%         56         128           Zene         480         10         400         174.9         91.4%         56         108           Zene         1809         20         800         1118         86.4%         67         116           nt-Butyl Ether         409.9         10         400         734.3         95.2%         70         130           rt-Butyl Ether         1132         10         400         794.7         84.4%         74         116           rt-Butyl Ether         1132         10         400         794.7         84.4%         74         116	9810083		Ą		SeqNo:					
540.5     10     400     174.9     91.4%     56       zene     480     10     400     103.2     94.2%     78       ne     1809     20     800     1118     86.4%     67       ne     1809     20     800     1118     86.4%     67       ne     1756     10     400     2.82     101.8%     70       726     10     400     74.7     84.4%     71       1132     10     400     794.7     84.4%     74			SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
zene48010400103.294.2%78ne180920800111886.4%67ne1809104002.82101.8%70rt-Butyl Ether726104002.82101.8%701132113210400794.784.4%74			174.9	91.4%	56	128	557.3	3.1%	12	
ne 1809 20 800 1118 86.4% 67 rt-Butyl Ether 409.9 10 400 2.82 101.8% 70 726 10 400 345.3 95.2% 78 1132 10 400 794.7 84.4% 74	480		103.2	94.2%	78	107	495.2	3.1%	1	
rt-Butyl Ether 409.9 10 400 2.82 101.8% 70 726 10 400 345.3 95.2% 78 1132 10 400 794.7 84.4% 74	1809		1118	86.4%	67	118	1867	3.1%	10	
726         10         400         345.3         95.2%         78           1132         10         400         794.7         84.4%         74	409.9		2.82	101.8%	20	130	414	1.0%	15	
1132         10         400         794.7         84.4%         74			345.3	95.2%	78	107	744.5	2.5%	14	
			794.7	84.4%	74	116	1168	3.1%	14	
			794.7	84.4%	47	2	168	ю. 1%		4

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R - RPD outside accepted recovery limits

J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit

On Site Tec	On Site Technologies, LTD.
<b>CLIENT:</b>	On Site Technologies, Limited Partnership
Work Order:	9810083

**Date:** 20-Nov-98

# QC SUMMARY REPORT

D: LCS WATER										
	Batch ID: GC-1_981103 Test Code:	Test Code:	SW8020A	Units: µg/L		Analysis	Analysis Date 11/3/98	Prep Date:		
Client ID:	9810083	Run ID:	GC-1_981103B	B		SeqNo:	8446			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD	RPDLimit C	Qual
Benzene	37.98	-	40	0.1591	94.6%	56	128			
Ethylbenzene	38.3	-	40	0.2016	95.3%	78	107			
m,p-Xylene	75.65	7	80	0.4253	94.0%	67	118			
Methyl tert-Butyl Ether	39.24		40	0	98.1%	70	130			
o-Xylene	38.88		40	0.2751	96.5%	78	107			
Toluene	38.34	-	40	0.41	94.8%	74	116			
Sample ID: LCS WATER Bat	Batch ID: GC-1_981104 Test Code: SW8020A	Test Code:	SW8020A	Units: µg/L		Analysis	Analysis Date 11/4/98	Prep Date:		
Client ID:	9810083	Run ID:	GC-1_981104A	A		SeqNo:	8461			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD	RPDLimit Q	Qual
Benzene	39.08	-	40	0	97.7%	56	128			
Ethylbenzene	39.35	-	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	-	40	0	98.6%	70	130			
o-Xylene	39.78		40	0	<b>99.5</b> %	78	107			
Toluene	39.28	~	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

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OILDIN IVUILININGINS, LID.	ULUINEN	00, L1L.										
CLIENT:	On Site T	On Site Technologies, Limited Partnership	rtnership						QC SUI	MMAR	QC SUMMARY REPORT	<b>JRT</b>
Work Urder: Project:	9810085 4-1532							Continu	Continuing Calibration Verification Standard	on Verific	cation Star	ıdard
Sample ID: CCV1 QC0606/07	QC0606/07	Batch ID: GC-1_981103	Test Code:	SW8020A	Units: µg/L		Analysis	Analysis Date 11/3/98	98	Prep Date:	ate:	
Client ID:		9810083	Run ID:	GC-1_981103B	B		SeqNo:	8443				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		20	-	20	0	100.0%	85	115				
Ethylbenzene		20.25	-	20	0	101.3%	85	115				
m,p-Xylene		40	7	40	0	100.0%	85	115				
Methyl tert-Butyl Ether	ther	20.28	<del>~-</del>	20	0	101.4%	85	115				
o-Xylene		20.51	~	20	0	102.6%	85	115				
Toluene		20.37	-	20	0	101.9%	85	115				
1,4-Difluorobenzene	e	89.67	0	100	0	89.7%	70	130				
4-Bromochlorobenzene	tene	101.4	0	100	0	101.4%	70	130				
Fluorobenzene		87.8	0	100	0	87.8%	70	130				
Sample ID: CCV2 QC0606/07	QC0606/07	Batch ID: GC-1_981103	Test Code:	SW8020A	Units: µg/L		Analysis	Analysis Date 11/3/98	98	Prep Date	ate:	
Client ID:		9810083	Run ID:	GC-1_981103B	8		SeqNo:	8444				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		19.51	-	20	0	97.6%	85	115				
Ethylbenzene		19.82		20	0	99.1%	85	115				
m,p-Xylene		38.91	2	40	0	97.3%	85	115				
Methyl tert-Butyl Ether	her	20.31	-	20	0	101.6%	85	115				
o-Xylene		20.2	-	20	0	101.0%	85	115				
Toluene		19.88	-	20	0	99.4%	85	115				
1,4-Difluorobenzene	đ	89.84	0	100	0	80.8%	70	130				
4-Bromochlorobenzene	ene	102.3	0	100	0	102.3%	70	130				
Fluorobenzene		87.66	0	100	0	87.7%	70	130				
Qualifiers:	ND - Not Det	ND - Not Detected at the Reporting Limit		S - Spi	S - Spike Recovery outside accepted recovery limits	e accepted reco	overy limits		B - Analyte detected in the associated Method Blank	l in the associ	ated Method B	llank

**Date:** 20-Nov-98

On Site Technologies, LTD.

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits

J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit

I of 3

CLLIENT: On Site 7 Work Order: 9810083 Project: 4-1532	On Site Technologies, Limited Partnership 9810083 4-1532	urtnership					Continuir	QC SUMMARY REPORT Continuing Calibration Verification Standard	MMAR n Verific	QC SUMMARY REPORT Calibration Verification Standard	<b>DRT</b> adard
Sample ID: CCV3 QC0606/07	07 Batch ID: GC-1_981103	Test Code:	SW8020A	Units: µg/L		Analysis	Analysis Date 11/3/98		Prep Date:	ate:	
Client ID:	9810083	Run ID:	GC-1_981103B	ß		SeqNo:	8445				
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	39.32	-	40	0	98.3%	85	115	•	<u>4</u> 1		
Ethylbenzene	39.46	-	40	0	98.6%	85	115				
m,p-Xylene	77.48	2	80	0	96.9%	85	115				
Methyl tert-Butyl Ether	38.93	<del>~</del>	40	0	97.3%	85	115				
o-Xylene	39.8	-	40	0	99.5%	85	115				
Toluene	39.51	-	40	0	98.8%	85	115				
1,4-Difluorobenzene	89.53	0	100	0	89.5%	20	130				
4-Bromochlorobenzene	112.5	0	100	0	112.5%	70	130				
Fluorobenzene	87.47	0	100	0	87.5%	20	130				
Sample ID: CCV1 QC0606/07	07 Batch ID: GC-1_981104	Test Code:	SW8020A	Units: µg/L		Analysis	Analysis Date 11/4/98	-	Prep Date	te:	
Client ID:	9810083	Run ID:	GC-1_981104A	A		SeqNo:	8459				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit R	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.15	-	20	0	105.7%	85	115				
Ethylbenzene	21.33	~	20	0	106.7%	85	115				
m,p-Xylene	42	2	40	0	105.0%	85	115				
Methyl tert-Butyl Ether	20.99	-	20	0	105.0%	85	115				
o-Xylene	21.54	-	20	0	107.7%	85	115				
Toluene	21.27	÷	20	0	106.3%	85	115				
1,4-Difluorobenzene	89.74	0	100	0	89.7%	20	130				
4-Bromochlorobenzene	102.7	0	100	0	102.7%	20	130				
Fluorobenzene	87.6	0	100	0	87.6%	70	130				
					-		c		4		-
Qualifiers: ND - Not	ND - Not Detected at the Reporting Limit		1ds - S	S - Spike Recovery outside accepted recovery limits	le accepted reci	overy limits	2	B - Analyte detected in the associated Method Blank	in the associ-	ated Method B	Slank

2 of 3

R - RPD outside accepted recovery limits

J - Analyte detected below quantitation limits

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<b>CLIENT:</b>	On Site Technologies, Limited Partnership
Work Order:	9810083

9810083 4-1532 Project:

QC SUMMARY REPORT Continuing Calibration Verification Standard 

est Code: SW8020A Units: µg/L Analysis Date 11/4/98 Prep Date:	Run ID: GC-1_981104A SeqNo: 8460	PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual	1 20 0 104.0% 85 115	85	2 40 0 102.7% 85 115	1 20 0 106.5% 85 115	1 20 0 106.6% 85 115	1 20 0 105.0% 85 115	0 100 0 89.2% 70 130	0 100 0 102.4% 70 130	0 100 0 87.7% 70 130
Batch ID: GC-1_981104 Test	9810083 Run	Result	20.8	20.93	41.08	21.31	21.31	20.99	89.25	102.4	87.7
Sample ID: CCV2 QC0606/07 Batch ID: GC-1_981104 Test Code: SW8020A	Client ID:	Analyte	Benzene	Ethylbenzene	m,p-Xylene	Methyl tert-Butyl Ether	o-Xylene	Toluene	1,4-Difluorobenzene	4-Bromochlorobenzene	Fluorobenzene

J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit

Qualifiers:

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

3 of 3

# On Site Technologies, LTD.

9810083

4-1532

On Site Technologies, Limited Partnership

**CLIENT:** 

**Project:** 

Work Order:

Date: 20	)-Nov-98
Date: 2	J-INUV-20

# **QC SUMMARY REPORT** SURROGATE RECOVERIES

Fest No: S	SW8020A			BTEX
Sample ID	14FBZ	4BCBZ	FLBZ	
0810079-01A	90	104	87.9	
0810083-01A	90.1	103	88.1	
0810083-01AMS	90.2	103	87.8	
0810083-01AMSD	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		
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 =

14FBZ

4BCBZ

FLBZ

### Surrogate

QC Limits

1

1,4-Difluorobenzene 70-130 = 4-Bromochlorobenzene 70-130 Fluorobenzene = 70-130

\* Surrogate recovery outside acceptance limits

CLIENT: Work Order: Project:	On Site Techno 9810083 4-1532	ologies, Limite	d Partnership	QC SUMMARY REPORT SURROGATE RECOVERIES
Test No:	SW8020A			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	

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	Acronym		Surrogate		QC Limits	
	14FBZ	=	1,4-Difluorobenzene		70-130	
	4BCBZ	=	4-Bromochlorobenzene		70-130	
 	FLBZ	=	Fluorobenzene		70-130	
l						
					·	
	* S	urrogate	recovery outside acc	eptance limit	S	

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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

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



LAB: (505) 325-1556

On Site Technologies, LTD.

**Date:** 20-Nov-98

CLIENT:	On Site Technologies, Limited Partnership
<b>Project:</b>	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

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

#### 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

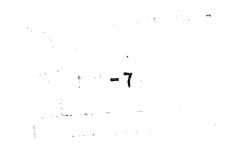
## **Requested Analysis:**

- 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
l	Cadmium	mg/l	< 0.05
13001	Chromium	mg/l	0.085
ŗ	Lead	mg/l	< 0.1
8	Silver	mg/l	< 0.05
1	Selenium	mg/l	< 0.1
1521	Mercury	μg/l	< 0.5





On Site Technologies, LTD. 612 E. Murray Drive Farmington, NM 87401 (505) 325-2432	nologies, l e 1401	LTD.			CHAIN-(	CHAIN-OF-CUSTODY RECORD		Page I of I
Subcontractor: Mountain States Analytical, Inc. 1645 West 2200 South	Analytical, Inc. South	TEL: FAX:	.: (800) 973-6724 (: (801) 972-6278	724 278				
Salt Lake City, UT 84119	84119	Acct #:	:#1				30-	30-Oct-98
Sample ID	Matrix	Collection Date	Bottle Type	SW3010A	SW6010A	Requested Tests		
9810083-01C	Aqueous	10/28/98 11:00:00 AM	500HDPEHNO3	-				
Comments:	Please analyz	Please analyze one (1) sample for RCRA Metals. Total	RCRA Metals. J	<u>otal</u>				
			Dat	Date/Time			Date/Time	[-'-]
Relinquished by:	N N		10/ <b>20/</b> 21	10/10/10 (630	Received by:			
vemiquismen by:					Neceived by.			

15351 Sample Chain of Custody	MSAI USE ONLY:	Cooler ID: Cooler Temp:	Therm. ID:	Hand Delivered:	MSAI Courier:	Arrived in Shipping Container: Y / N	Sealed: Y / N / NA	COC Seals on Container: PRESENT	IntactBroken	NOT PRESENT	Samples: COC & Labels Match?	YES	Broken / Leaking? YES	ON	VOAs w/o headspace? YES	No No	Preservative pH: HNO <sub>1</sub> :	H <sub>2</sub> SO <sub>4</sub> :	NaOH/ZnAC:	Correct Containers used? YES		YES	
15351 Ile Chain c	Remarks		Sday		LHL											Date Time		Seal Intact?					
Samp		,			F											Airbill No.		Date Time					
Nestern	Analysis Required									-										ents:			
Weg	đ	AN Z	דיז אז.	) जूज	bly E	X X										Name of Shipper	$\left( \right)$	Received by (Lab)		Sample Receiving Comments:			
			and the second second	;ty:	Wate Spec Spec											ed by: 🦯 🕖	/ - C	~		Sample Re			-
<b>Inc.</b>		3-23-2	əji	sod	Grab Com bilo2											Sample received by		2		Rush		Fax	
Inalytical, Inc.	Sampler	Fax # 91			Time Collected	11:w										Time	5 1 1 5 5 5	*• .		Normal		Phone	
ates An	tates	- Fa	2 at		Collected	10/25/										Date Ti	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1				l and surcharge		
<ul> <li>Mountain States Analytical, Inc The Quality Solution</li> </ul>	Weintain 1	73- 005D	<del>له ~ رانک_ #</del> ۱۰		Sample Identification	5 - 88896										Sample relinquished by:		• •		Turnaround Time Requested (please circle) :	(Rush TAT is subject to MSAi approval and surcharge) bort Results bv. (Date)	Report Results to:	
	Client Name	Phone #	Project Name / #	#.0.4	Sam	24665.										Sample reli				Turnaround Ti	(Rush TAT is subject to M Report Results by: (Date)	Rush results requ	

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

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

Yours of Quality Service

	CHAIN OF CUSTODY RECORD		RECORD		0580
TECHNOLOGIES, LTD. 657 W. Maple • P. O. BC LAB: (505) 325-56	, 657 W. Maple • P. O. Box 2606 • Farmington NM 87499 LAB: (505) 325-5667 • FAX: (505) 325-6256	4	11/20/00		Pageof
Purchase Order No.: 4	1437		Name C12/17/	<11 / J	Title
Name CIA 'IN' A I'		)T ST	Company CAN CIT	1/1 1-6	cli - Facht
EDICO EDICO Address Address	Dept.	ESUL REPO	Malling Address City, State, Zip		
▲ City, State, Zip		<u> </u>	Telephone No.	-	Telefax No.
Sampling Location: Freeze Free 14 Deve 656 1467	ミロイン コン		A	ANALYSIS REQUESTED	ESTED
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Sampler: アノイル・イム・メ		Mumb IstroO	12 2 1 2 1 2 1 - 2 - 2 - 2 - 2 - 2 - 2 -		
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11/11 14 1×14		(-)	<i>N</i>		27-1
				-	
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Relinquished by:	Date/Time	Received by:	bd by:		Date/Time
Relinquished by:	Date/Time	Received by:	by:		Date/Time
Method of Shipment:		Rush	24-48 Hours	10 Working Days	Special Instructions:
Authorized by: (Client Signature Must Accompany Reguest)	Date				



LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 11-Nov-98

Client:		ogies, Limited Partner	ship	Client Sample I Client Sample		
Work Order: Lab ID: Project:	9810085 9810085-01A 4-1532	Matrix: SOIL		Collection D	•	8 10:01:00 AM
Parameter		Result	PQL	Qual Units	DF	Date Analyzed

DIESEL RANGE ORGANICS	SW801	5			Analyst: HR
T/R Hydrocarbons: C10-C28	ND	50	mg/Kg	2	11/10/98

	Qualifiers:	
--	-------------	--

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

R - RPD outside accepted recovery limits

Surr: - Surrogate

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

l of I



LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 11-Nov-98

Parameter  DIESEL RANGE		Result	PQL 8015	Qual Units		DF	Date Analyzed Analyst: HR
Project:	4-1532	····· .	<u> </u>	COC	Record:	5587	
Lab ID:	9810085-02A	Matrix: SOIL		Collecti	on Date:	10/28/98	8 11:12:00 AM
Work Order:	9810085			Client Sa	nple ID:	Sample	#2
Client:	On Site Technol	ogies, Limited Partner	rship	<b>Client Sam</b>	ple Info:	Delusso	Loop Spill

DIESEL RANGE ORGANICS	SW	8015			Analyst: HF
T/R Hydrocarbons: C10-C28	780	25	mg/Kg	1	11/10/98

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

R - RPD outside accepted recovery limits

Surr: - Surrogate

#### P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

T/R Hydrocarbons: C10-C28



LAB: (505) 325-1556

#### ANALYTICAL REPORT

Date: 11-Nov-98

DIESEL RANGE	ORGANICS	sw	8015			Analyst: HR
Parameter	·····	Result	PQL	Qual Units	DF	Date Analyzed
Project:	4-1532			COC Reco	rd: 5587	
Lab ID:	9810085-03A	Matrix: SOIL		Collection Da	ate: 10/28/98	8 11:17:00 AM
Work Order:	9810085			Client Sample	ID: Sample	#3
Client:	On Site Technol	ogies, Limited Partne	rship	Client Sample In	fo: Delusso	Loop Spill

25

mg/Kg

1

11/10/98

1400

Qualifiers:
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PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

R - RPD outside accepted recovery limits E - Value above quantitation range

Surr: - Surrogate

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

l of l

T/R Hydrocarbons: C10-C28



LAB: (505) 325-1556

#### ANALYTICAL REPORT

**Date:** 11-Nov-98

11/10/98

1

DIESEL RANGE	ORGANICS	SW8	015				Analyst: HR
Parameter		Result	PQL	Qual	Units	DF	Date Analyzed
Project:	4-1532				COC Reco	ord: 5587	
Lab ID:	9810085-04A	Matrix: SOIL		C	ollection D	ate: 10/28/98	8 11:20:00 AM
Work Order:	9810085				-	ID: Sample	
Client:	On Site Technol	ogies, Limited Partners	hip	Clien	t Sample Ir	ifo: Delusso	Loop Spill

25

mg/Kg

1100

Qualifiers:

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

ND - Not Detected at Practical Quantitation Limit

R - RPD outside accepted recovery limitsE - Value above quantitation range

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank Surr: - Surrogate

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

I of I



LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 11-Nov-98

Lab ID:         9810085-05A         Matrix: SOIL         Collection Date: 10/28/98 12:04:00 PM           Project:         4-1532         COC Record: 5587
---

DIESEL RANGE ORGANICS	sw	8015			Analyst: <b>HR</b>
T/R Hydrocarbons: C10-C28	ND	25	mg/Kg	1	11/10/98

Qualifiers:

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

R - RPD outside accepted recovery limits

Surr: - Surrogate

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1



LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 11-Nov-98

Client:		ogies, Limited Partnership	Client Sample In		• •
Work Order: Lab ID:	9810085 9810085-06A	Matrix: SOIL	Client Sample Collection Da	•	
Project:	4-1532		COC Reco	ord: 5587	·
Parameter		Result PQI	. Qual Units	DF	Date Analyzed

DIESEL RANGE ORGANICS		SW8015			Analyst: HR
T/R Hydrocarbons: C10-C28	ND	25	mg/Kg	1	11/10/98

Oualifiers:
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PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

R - RPD outside accepted recovery limits E - Value above quantitation range

Surr: - Surrogate

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1



LAB: (505) 325-1556

#### ANALYTICAL REPORT

Date: 11-Nov-98

Client:		ogies, Limited Partners	hip	Client Sample In		
Work Order: Lab ID: Project:	9810085 9810085-07A 4-1532	Matrix: SOIL		Client Sample Collection D COC Reco	ate: 10/28/98	
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

<b>Oualifiers</b> :
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PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

R - RPD outside accepted recovery limits

Surr: - Surrogate

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- TECHNOLOCY BLENDING INDUSTRY WITH THE ENVIRONMENT -

I of I



LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 11-Nov-98

Parameter		Result PQ	. Qual Units	DF	Date Analyzed
Project:	4-1532		COC Reco	ord: 5587	<u></u>
Lab ID:	9810085-08A	Matrix: SOIL	Collection Da	ate: 10/28/98	8 2:26:00 PM
Work Order:	9810085		<b>Client Sample</b>	ID: Sample	#17
Client:	On Site Technol	ogies, Limited Partnership	Client Sample Ir	nfo: Delusso	Loop Spill

DIESEL RANGE ORGANICS	SV	V8015			Analyst:	HR
T/R Hydrocarbons: C10-C28	9400	120	mg/Kg	5	11/10/98	

Qualifiers:

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

1 of 1

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

R - RPD outside accepted recovery limits

Surr: - Surrogate

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

T/R Hydrocarbons: C10-C28



LAB: (505) 325-1556

# ANALYTICAL REPORT

Date: 11-Nov-98

DIESEL RANGE			 8015	Quai	Units		Analyst: HR
Parameter		Result	POL	Oual	Unite	DF	Date Analyzed
Project:	4-1532				COC Reco	rd: 5587	
Lab ID:	9810085-09A	Matrix: SOIL		C			3 2:28:00 PM
Work Order:	9810085			Clie	ent Sample	ID: Sample	#19
Client:	On Site Technol	ogies, Limited Partner	rship	Clien	t Sample Ir	fo: Delusso	Loop Spill

25

mg/Kg

1

11/10/98

860

Qualifiers:

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

R - RPD outside accepted recovery limits E - Value above quantitation range

nk Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

l of l



LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 11-Nov-98

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

Parameter	Result	PQL	Qual Units	DF	Date Analyzed
BTEX	SI	V8020A			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	SI	N8021			Analyst: DC
Napthalene	120	1	µg/L	1	11/5/98

Qualifiers:

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

1 of 1

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

R - RPD outside accepted recovery limits

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 11-Nov-98

Client: Work Order:	On Site Technol 9810085	ogies, Limited Partn	ership		-	ifo: Delusso ID: Water Sa	• •
Lab ID:	9810085-10B	Matrix: AQUEO	DUS	C	ollection D	ate: 10/28/98	10:18:00 AM
Project:	4-1532				COC Reco	ord: 5587	
Parameter		Result	PQL	Qual	Units	DF	Date Analyzed
OIL AND GREAS	5E, T/R	E4	13.2				Analyst: HR
	tal Recoverable	25	10		ma/L	10	11/2/98

Qualifiers:

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

R - RPD outside accepted recovery limits

Surr: - Surrogate

#### P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1



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

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



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

Sample D:         Ma-34         Bath D: 54         Test Code:         E112         Unit:         Pin-1         Pin-2         Pin-2 <th>D. ME-54         Barch ID: 54         Test Code: E412         Units: mpl.         Analysis Date 11296         Prep Date: 1020496           P. Bauth ID: 3         Rm ID: 3         Rm ID: 3         Rpt.         Saqtvo: 3233         Saqtvo: 3233           Base ID: 4         P. D.         Saqtvo: 300         NME-54         NME-54         NME-54         Nep Date: 1020496           Base ID: 54         ND         Test Code: E414         Units: mg/L         Analysis Date 11296         Pep Date: 100096           Base ID: 54         Test Code: E414         Units: mg/L         Analysis Date 11296         Pep Date: 100096           D: ME-54         Banch ID: 54         Test Code: E414         Units: mg/L         Analysis Date 11296         Pep Date: 100096           D: ME-54         Banch ID: 54         Test Code: E414         Units: mg/L         Analysis Date 11296         Pep Date: 100096           D: ME-54         Banch ID: 54         Test Code: E414         Units: mg/L         Analysis Date 11296         Pep Date: 100096           D: ME-54         Pol&lt;         SPK value         SPK Ref Val         SeqV         Low Linit         Pep Date: 100096           Multionartic ID: 10         Test Code: E414         Units: mg/L         SeqV         Date: 100096         SeqV         Pep Date: 100096         Pe</th> <th>CLIENT: Work Order: Project:</th> <th>On Site Te 9810085 4-1532</th> <th>On Site Technologies, Limited Partnership 9810085 4-1532</th> <th>Partnership</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>QC SUMMARY REPORT Method Blank</th> <th>IMAR</th> <th>Y REPORT Method Blank</th> <th><b>ORT</b> Blank</th>	D. ME-54         Barch ID: 54         Test Code: E412         Units: mpl.         Analysis Date 11296         Prep Date: 1020496           P. Bauth ID: 3         Rm ID: 3         Rm ID: 3         Rpt.         Saqtvo: 3233         Saqtvo: 3233           Base ID: 4         P. D.         Saqtvo: 300         NME-54         NME-54         NME-54         Nep Date: 1020496           Base ID: 54         ND         Test Code: E414         Units: mg/L         Analysis Date 11296         Pep Date: 100096           Base ID: 54         Test Code: E414         Units: mg/L         Analysis Date 11296         Pep Date: 100096           D: ME-54         Banch ID: 54         Test Code: E414         Units: mg/L         Analysis Date 11296         Pep Date: 100096           D: ME-54         Banch ID: 54         Test Code: E414         Units: mg/L         Analysis Date 11296         Pep Date: 100096           D: ME-54         Banch ID: 54         Test Code: E414         Units: mg/L         Analysis Date 11296         Pep Date: 100096           D: ME-54         Pol<         SPK value         SPK Ref Val         SeqV         Low Linit         Pep Date: 100096           Multionartic ID: 10         Test Code: E414         Units: mg/L         SeqV         Date: 100096         SeqV         Pep Date: 100096         Pe	CLIENT: Work Order: Project:	On Site Te 9810085 4-1532	On Site Technologies, Limited Partnership 9810085 4-1532	Partnership						QC SUMMARY REPORT Method Blank	IMAR	Y REPORT Method Blank	<b>ORT</b> Blank
Readt         POL         SPK value         SPK value         SPK value         SPK value         SPC intri         RPD Ref val         WPD         RPD Intri           Base: Total Recoverable         ND         1 $\times$ ND         ND $\times$	Result         Poll         Sykt kef Val         SkEC         Lowini         High Limit         RPD Ref Val         % KPD         RPD Limit           Base 10:18         ND         1 $\cdot \cdot $	Sample ID: <b>MB-5</b> 4 Client ID:	4	Batch ID: 54 9810085	Test Code: Run ID:	E413.2 TPH 1_9811	Units: <b>mg/L</b> 102A		Analysis SeqNo:	Date 11/2/98 8253		Prep Da	ate: 10/30/96	_
asse, Total Recoverable         ND         1           Back, Total Recoverable         ND         Tast Code: E 18.1         Units: mg/L         Aralysis Date 112.98         Perp Date: 103098           D: MB-54         Back ID: 54         Tast Code: E 18.1         Units: mg/L         SeqNo:         8401         Perp Date: 103098           P:         PoL         SPK value         SPK ref Val         %REC         Lowin:         RPD Imit           P:         PoL         SPK value         SPK ref Val         %REC         Lowin:         RPD Imit           mtydrocarbons, T/R         ND         S         SR         SR         SR         SR	ass. Total Recoverable         ND         1           ass. Total Recoverable         ND         1 est Code: E418.1         Units: mg/L         Analysis Date 11298         Perp Date: 103008           D: MB-34         Bart ID: 54         Test Code: E418.1         Units: mg/L         SagNo:         8401         Perp Date: 103008           P. Malysis Date 1128         Pol.         Styles         Bart ID: 54         SagNo:         8401         SagNo:         8401           P. Malysis Date 1128         Pol.         Shyles         Styles         8401         SagNo:         8401         SagNo:         8401         SagNo:         8401         SagNo:	Analyte		Result	PQL	SPK valut		%REC	LowLimit	HighLimit RPC	Ref Val	%RPD		Qual
D:         Hat:         Dit:         mg/L         Test Code:         E411         Unit:         mg/L         Analysis Date         11208         Per Diter         10308           R:         991005         Run D:         TH1_99102         Seqvic         840         Seqvic         440           Result         POL         Srt value         Srt value         Seqvic         440         Seqvic         440           Inhydrocarbox, UR         ND         S         Set         Lou Linit         KpD minit         KpD minit	D: MB-34       Data Di S4       Tast Code: E481       Unit: mJL       Analysis Data 112.98       Per Data: 103.003         P: MB-34       981008       Run D:       Tast Code: E481       Seqvo:       8401       Seqvo:       8401         P: MB-34       PCL       SPK Ret Value       SPK Ret Value       SPK Ret Value       Seqvo:       8401       Set Part RD Linki         MH of control of the set Mature       ND       5       Set Part RD Linki       RPD Linki       RPD Linki         MH of control of the set Mature       S       Set Mature       Set Mature       Set Mature       Set Part RD Linki	Oil & Grease, Tota	al Recoverable		-									1
Reut         POL         SPK reutval         %REC         LowIniti         RPD Ref Val         %RD         RPD Liniti           In Hydrocarbons. LiR         ND         5   <	Result         DL         SPK Ref Val         %REC         Low Limit         RPD Ref Val         %RPD           m Hytrocarbons. LR         ND         5	Sample ID: <b>MB-5</b> 4 Client ID:	-	Batch ID: 54 9810085	Test Code: Run ID:	E418.1 TPH 1_9811	Units: mg/L 102B		Analysis SeqNo:	Date 11/2/98 8401		Prep Da	ate: 10/30/98	~
Ð	Ð	Analyte		Result	PQL	SPK value		%REC	LowLimit		) Ref Val	%RPD	RPDLimit	Qual
		Petroleum Hydroc	arbons, T/R	Q	ى م									

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R - RPD outside accepted recovery limits

J - Analyte detected below quantitation limits

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CLJENT: C Work Order: 9 Project: 4	On Site Tec 9810085 4-1532	On Site Technologies, Limited Partnership 9810085 4-1532	artnership						QC SUI	MMAR' San	QC SUMMARY REPORT Sample Duplicate	<b>)RT</b> icate
Sample ID: 9810085-10BD Client ID: Water Sample Analyte		Batch ID: <b>54</b> 9810085 Result	Test Code: E413.2 Run ID: TPH 1 PQL SPK	E413.2 ( TPH 1_981102A SPK value S	2 Units: <b>mg/L</b> 	%REC	Analysis SeqNo: LowLimit	Analysis Date 11/2/98 SeqNo: 8262 wLimit HighLimit R	Analysis Date 11/2/98 SeqNo: 8262 LowLimit HighLimit RPD Ref Val	Prep Da %RPD	Prep Date: 10/30/98 %RPD RPDLimit	Qual
Oil & Grease, Total Recoverable	coverable	ß	6	0	0	0.0%	0	0	24.62	87.6%	<del>.</del> Ω	R 1 (0)/1 199
Qualifiers: ND	) - Not Detect	ND - Not Detected at the Reporting Limit		ۍ ۲	S . Snike Recovery outside accented recovery limits	e accented reco	imits	۵	Andres defected in the second standard Mathed Dlank		a Martine Control of Control of Control Martine Control Martine Control of Co	r R

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CLG5.34       Batch ID: 34       Test Code: E413.2       Units: mg/L       Aralysis Date 11/2/96       Perp Date: 10/30/96         8: 01005       Run ID: TPH 1_911/07A       SeqNo:       225       SeqNo:       225       NPD: Init         8: 01005       Run ID: TPH 1_911/07A       SeqNo:       225       SeqNo:       225       NPD: Init       NPD: Init         8: 01005       Tast Code: E413.1       Units: mg/L       Analysis Date 11/2/96       Pep Date: 10/30/96         8: 01015       Tast Code: E418.1       Units: mg/L       Analysis Date 11/2/96       Pep Date: 10/30/96         9: 125.44       Batch ID: 54       Test Code: E418.1       Units: mg/L       Analysis Date 11/2/98       Pep Date: 10/30/96         9: 125.54       Batch ID: 54       Test Code: E418.1       Units: mg/L       Analysis Date 11/2/98       Perp Date: 10/30/96         9: 125.54       Batch ID: 74       POL       SteqNo:       82.2%       90       120       Prop RefUnit         1/lydrocathores, TR       7.56       5       8.3       0       22.2%       90       120       Prop RefUnit         1/lydrocathores, TR       7.56       5       8.3       0       22.4%       90       120       Prop RefUnit         1/lydrocathores, TR       <	CLIENT: Work Order: Project:	On Site Te 9810085 4-1532	On Site Technologies, Limited Partnership 9810085 4-1532	artnership						QC SUMMARY REPORT Laboratory Control Spike - generic	MMAR) Control S	<b>V REPC</b> Spike - ge	<b>JRT</b> neric
Amelia         Poll         SNY value         SNY va	Sample ID: LCS-{ Client ID:	54	-	Test Code: Run ID:	E413.2 TPH 1_98110	Units: mg/L )2A		Analysis SeqNo:	Date 11/2/ 8255	86	Prep Dat	te: 10/30/98	Ċ
Batch ID: 54         Test Code:         Linit:         Inglu         Analysis Date         I 112/95         Prep Date:         10/30/66           9610065         Run ID:         TPH 1_91102B         SeqNo:         8403         SeqNo:         8403           7630         P.         SeqNu:         Magn         SeqNo:         8403         Mapp           7630         P.         SPK value         SPK Ret Value         SPK value         SPK value         RPD Imit           7630         S         8.3         0         92.2%         80         120         APD Imit	nalyte il & Grease, Tott	al Recoverable	Result 7.65	1 1	SPK value 8.3		%REC 92.2%	LowLimit 80	HighLimit	KPD Ref Val		RPULimit	Qual
Result     PQL     SPK value     SPK Ret Val     %REC     LowLimit     HighLimit     RPD Ref Val     %RPD     RPDLimit       7.65     5     8.3     0     92.2%     80     120	ample ID: LCS-I lient ID:	54	Batch  D: 54 9810085	Test Code: Run ID:	E418.1 TPH 1_98110	Units: mg/L 12B		Analysis SeqNo:	Date 11/2/ 8403	86	Prep Dat	le: 10/30/98	
7.65     5     8.3     0     92.2%     80       The second of the Reporting Limits	nalyte		Result	Par	SPK value		%REC	LowLimit	HighLimit	RPD Ref Val		RPDLimit	Qual
ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits	stroleum Hydroc	arbons, T/R	7.65	υ	κ, κ	0	92.2%	S	120	а ,			
	malifiers:	ND - Not Detec			t	-	-	:	-	- - -			

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Test Code: <b>E413.2</b> 0085 Run ID: <b>TPH 1</b> Result PQL SPK					QC SUMMARY REPORT Continuing Calibration Verification Standard	QC SUMMARY REPORT Calibration Verification Standard	<b>KEPO</b>	<b>RT</b> dard
	E413.2 ( TPH 1_981102A	Units: <b>mg/L</b> 2 <b>A</b>		Analysis SeqNo:	Date 11/2/	Prep Date:	i i i i i i i i i i i i i i i i i i i	-
128 20	SPK value 124	SPK Ref Val	%REC 103.2%	LowLimit 80	HighLimit RPD Ref Val 120	%RPD	RPDLimit	Qual
Test Code: E418.1 Run ID: TPH 1	E418.1	Units: mg/L 2B		Analysis SeqNo:	Analysis Date 11/2/98 SeqNo: 8402	Prep Date:	ö	
Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
128 5	124	0	103.2%	80	120			
l.	PQL 5	SPK value 124	SPK value SPK Ref V. 124	SPK value SPK Ref Val 124 0	SPK value         SPK Ref Val         %REC         LowLimit           124         0         103.2%         80	SPK value SPK Ref Val %REC LowLimit HighLimit 124 0 103.2% 80 120	SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD	SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD

ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits

Qualifiers:

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

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CLIENT: On Site Technologie Work Order: 9810085	On Site T 9810085 4-1537	On Site Technologies, Limited Partnership 9810085	ed Partn	ership						QC SUMMARY REPORT Method Blank	MMAR	Y REPORT Method Blank	OF Bla
Sample ID: MB1 Client ID: Analyte		Batch ID: GC-2_981110 9810085 Result		Test Code: <b>SW8015</b> Run ID: <b>GC-2_98</b> PQL SPK va	<b>SW8015</b> GC-2_981110A SPK value {	Units: <b>mg/Kg</b> 0A : SPK Ref Val	%REC	Analysis D SeqNo: LowLimit <sup>+</sup>	Analysis Date 11/10/98 SeqNo: 8575 wuLimit HighLimit RP	/98 RPD Ref Val	Prep Da %RPD	Prep Date: 11/5/98 %RPD RPDLimit	s t Qual
T/R Hydrocarbons: C10-C28	s: C10-C28		Q	53									
C	ND - Not D	ND - Not Detected at the Reporting Limit	g Limit		Š	S - Spike Recovery outside accepted recovery limits	e accepted re	covery limits		B - Analyte detected in the associated Method Blank	ed in the ass	ociated Meth	ood Bl

QC SUMMARY REPORT Sample Duplicate	Prep Date: 11/10/98	Ref Val %RPD RPDLimit Qual	1092 6.3% 15
	Analysis Date 11/10/98 SeqNo: 8598	%REC LowLimit HighLimit RPD Ref Val	0
		%REC Lo	0.0%
	Units: mg/Kg A	SPK value SPK Ref Val	0
	SW8015 GC-2_981110A	SPK value	0
artnership	0 Test Code: Run ID:	PQL	25
On Site Technologies, Limited Partnership 9810085 4-1532	Batch ID: GC-2_981110 Test Code: SW8015 9810085 Run ID: GC-2_98	Result	1026
CLJENT: On Site Technologie Work Order: 9810085 Project: 4-1532	Sample ID: 9810085-04AD Client ID: Sample #6	Analyte	T/R Hydrocarbons: C10-C28

 Qualifiers:
 ND - Not Detected at the Reporting Limit

 J - Analyte detected below quantitation limits

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S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank \$I\$ of I

Batch ID:         Cc.2.36110         Test Code:         Sweits         Init:         Rp Date:         111098         Pep Dat	Batch ID: GC2_301110     Test Code: SW8015     Unlis: mg/Kg     Analysis Date 11/1008       Batch ID: GC2_301110A     SeqNo: B599       Result     PQL     SPK rel Val     %REC       Result     PQL     SPK rel Val     %REC     Lowinit: RPD Ref Val       465.3     25     502     0     92.7%     70     130	On Site Technologies, LTD. CLIENT: On Site Technologie: Work Order: 9810085 Proiect: 4-1532	On Site T 9810085 4-1532	On Site Technologies, Limited Partnership 9810085 4-1532	rtnership						QC SUN	<b>AMAR</b> Sampl	QC SUMMARY REPORT Sample Matrix Spike
rocarbons: C10-C28 465.3 25 502 0 92.7% 70	455.3         25         502         0         92.7%         70         130           Detected at the Reporting Limit         5 - Spike Recovery outside accepted recovery limits         5 - Spike Recovery outside accepted recovery limits	Sample ID: 981009 Client ID: Analyte	00-01AMS	Batch ID: GC-2_981110 9810085 Result	Test Code: Run ID: PQL	1110/			Analysis SeqNo: LowLimit	Date 11/1( 8599 HighLimit	<b>)/98</b> RPD Ref Val	Prep D %RPD	ate: 11/10/98 RPDLimit
	ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits	T/R Hydrocarbons:	C10-C28	465.3	55		0	92.7%		6			

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CLIENT: On Work Order: 981 Project: 4-1	On Site Technologies, Limited Partnership 9810085 4-1532	urtnership						QC SUMMARY REPORT Laboratory Control Spike - generic	AMARY Control S	/ <b>REPO</b> pike - ger	
Sample ID: LCS Soil Client ID:	Batch ID: GC-2_981110 9810085	Test Code: Run ID:	1110/	Units: mg/Kg		Analysis   SeqNo:	Analysis Date 11/10/98 SeqNo: 8577	Date 11/10/98 8577	Prep Dat	Prep Date: 11/5/98	
T/R Hydrocarbons: C10-C28	C28 514.8	55	501.9	o	102.6%	0	130				
Qualifiers: ND - N	ND - Not Detected at the Reporting Limit		S - Spike	S - Spike Recovery outside accepted recovery limits	accepted recov	very limits	œ ا	<ul> <li>B - Analyte detected in the associated Method Blank</li> </ul>	in the associat	ed Method Bl	

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CLIENT: On	On Site Technologies. Limited Partnership	es. Limited Par	tnership						U V V V V VI		Eq
ler:	9810085 4-1532	X	4					Continuing Calibration Verification Standard	Calibration Verification Standard	x KEF	n n n n n n n n n n n n n n n n n n n
Sample ID: CCV1 DRO 98110		Batch ID: GC-2 981110 Test Code:	Test Code:	SW8015	Units: ma/Ka		Analvsis	Analvsis Date 11/10/98	Prep Date:	ate:	
Client ID:		9810085	Run ID:	-			SeqNo:	8576			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	228	434	25	501.9	0	86.5%	85	115			
Sample ID: CCV2 DRO_98110	1	Batch ID: GC-2_981110	Test Code:	SW8015	Units: mg/Kg		Analysis	Analysis Date 11/10/98	Prep Date:	ite:	
Client ID:		9810085	Run ID:	GC-2_981110A	A		SeqNo:	8600			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	.28	428.2	25	501.9	0	85.3%	85	115			
Sample ID: CCV3 DR0_98110	1	Batch ID: GC-2_981110	Test Code:	SW8015	Units: mg/Kg		Analysis	Analysis Date 11/10/98	Prep Date:	te:	
Client ID:		9810085	Run ID:	GC-2_981110A	۷		SeqNo:	8601			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	,28	460.4	25	501.9	0	91.7%	85	115			   
Sample ID: CCV4 DRO_98110		Batch ID: GC-2_981110	Test Code: SW8015	SW8015	Units: mg/Kg		Analysis	Analysis Date 11/10/98	Prep Da	Prep Date: 11/10/98	
Client ID:		9810085	Run ID:	GC-2_981110A	٨		SegNo:	8602			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	28	451.4	25	502	0	89.9%	85	115			

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B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits

J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit

Qualifiers:

Project:       4-1532         Sample ID: MB1       Batch ID: GC-1_981105       Test Coc         Client ID:       9810085       Run ID:         Analyte       Result       PQI         Benzene       ND       ND         Ethylbenzene       ND       ND         m.p-Xylene       ND       ND         Toluene       .0964       .0964	Test Code: SW8020A Units: µg/L Run ID: GC-1_981105A PQL SPK value SPK Ref Val 1 2 1 1	Analysis Date 11/5/98 SeqNo: 8470 %REC LowLimit HighLimit RPD Ref Val	Prep Date: %RPD RPDLimit Qual
rene Result ND ND ND ND ND ND ND ND ND ND ND ND ND	SPK value	LowLimit HighLimit	RPDLimit
ene O			
Qualifiers: ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits		B - Analyte detected in the associated Method Blank

On Site Technologies, Limited Partnership       Con Site Technologies, Limited Partnership       Sample Matrix Sig         det: 30:005       Con Site Technologies, Limited Partnership       Sample Matrix Sig         det: 30:005       Con Site Technologies, Limited Partnership       Sample Matrix Sig         det: 30:005       Con Site Technologies, Limiter April       Analysis Data 11/569       Perp One: April Matrix Sig         det: Sample       Santh ID: Col-Jar115       Fet Core: Swerzon, Units: upuL       Analysis Data 11/569       Perp One: April Matrix Sig         det: Sample       Point       Section Signa Run ID: Col-Jar115       Fet Core: Swerzon, Units: upuL       Analysis Data 11/569       Perp One: April Matrix Signa Run ID: Col-Jar115         det: Sample       Section Signa Run ID: Col-Jar116       Colspan="6">Gol Run ID: Col-Jar116       Colspan="6">Colspan="6">Gol Run ID: Col-Jar116       Colspan="6">Colspan="6"       Colspan="6"       Sample Matrix Signa Run ID: Colspan="6"         Sample Matrix Signa Run ID: Col-Jar116       Colspan="6"       Colspan="6"       Colspan="6"												
Image:         Total Discrete:         Sweet Date:         Fail Discrete:         Pail Discrete: <th>CLIENT: On Site Work Order: 9810085 Project: 4-1532</th> <th>Technologies, Limited Pa 5</th> <th>rtnership</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>QC SU</th> <th><b>MMAR</b> Sample</th> <th><b>K REPC</b> Matrix S</th> <th><b>JRT</b> Spike</th>	CLIENT: On Site Work Order: 9810085 Project: 4-1532	Technologies, Limited Pa 5	rtnership						QC SU	<b>MMAR</b> Sample	<b>K REPC</b> Matrix S	<b>JRT</b> Spike
Water Sample         B11005         Run LI:         GC1_gen11GA         SerVice         Mather         B01005         Run LI:         SerVice         Mather	Sample ID: 9810085-10AMS	Batch ID: GC-1 981105	Test Code:	SW8020A	Units: µg/L		Analysis	: Date 11/5/5	98	Prep Dat	te:	ļ
Result         PQL         SPK relif vial         %REC         LowLint         RPD Tet Vial         %RPD         RPDLint           767.5         20         800         105         94.9%         76         118         %RPD	Client ID: Water Sample	9810085	Run (D:	GC-1_981105			SeqNo:					
10         767.5         20         800         2.45         56.6         56         128         78         107           1593         20         800         50.21         96.4%         78         101           8713         20         800         50.21         96.4%         78         101           8713         20         800         51.21         96.4%         74         116           8713         20         800         51.25         96.4%         74         116           8713         20         800         51.26         96.4%         74         116           8710         Result         POL         SPK value		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	1	RPD Ref Val	%RPD	RPDLimit	Qual
me         768.5         20         800         10.5         84.8%         78         107           8213         20         100         73.82         94.6%         78         178         77         18           8213         20         100         73.82         94.6%         78         173         78         77           8213         20         800         13.86         96.6%         74         168         74         76         74           9610085         Rauth ID: GC1_981105         Test Code:         SW020A         Unix: JpfL         Analysis Date         1166         Analysis Date         1167         769         Analysis Date         1167         769         374         11           Water Sample         910065         Run ID:         GC1_91105         Test Cod-1         Service         Analysis Date         1167         Analysis Date         1167         779         374         11           142         20         800         713         324         76         11         107         769.5         34%         10         12         12         12         12         12         12         12         12         12         12         12	:	767.5	20	800	2.45	95.6%	56	128				
1583         40         1800         73.82         94.65         71         118           7733         20         800         50.21         94.95         74         169           810065-10.MSD         Batch ID: GC-1.991105         Text.         Analysis Date 115.06         Prep Date:           810065-10.MSD         Batch ID: GC-1.991105         Text.         Analysis Date 115.06         Prep Date:           Water Sample         9910055         Run ID:         GC-1.991105         Text.         Analysis Date 115.06           Water Sample         9910055         Run ID:         GC-1.991105         Text.         Analysis Date 115.06           Water Sample         9910055         Run ID:         GC-1.991105         Text.         Marce 116.06           Vater Sample         9910055         Run ID:         GC-1.991105         Text.         Marce 116.06           Vater Sample         742         20         800         78         107         783         34%         10           1522         40         173         93.4%         73         107         783         33%         14           1523         20         800         11.36         92.9%         74         116         7792	thylbenzene	768.5	20	800	10.5	94.8%	78	107				
8213         20         800         51.3         20         80.4         78         107           310085-10AMSD         Bath ID: GC-1, Birlis         Fet Code:         8400         11.36         96.0%         74         116           910085-10AMSD         Bath ID: GC-1, Birlis         Test Code:         SM020A         Units: JgL         Analysis Date         117.96         Prep Date:           Water Sample         991005         Run ID:         GC-1, Birlis         Analysis Date         117.96         Prep Date:           Water Sample         991005         Run ID:         GC-1, Birlis         Analysis Date         117.96         73         33%         12           Water Sample         991005         Run ID:         SetVate         SetVat         %REC         LowInit<	, p-Xylene	1593	40	1600	79.82	94.6%	67	118				
T732         20         800         11.35         56.0%         74         116         Prep Date:           SelTORES-TOMIND         Batch ID: GC-1_981105         Test Code:         Sweto20A         Units:         Junit         Analysis         Pare         Prep Date:           Water Sample         Batch ID: GC-1_981105         Test Code:         Sweto20A         Units:         Junit         Analysis         Pare         Pare           Water Sample         Batch ID: GC-1_981105         Test Code:         Sweto20A         Units:         Junit         RPID:         Pare         Pare           Water Sample         Batch ID: GC-1_981105         Test Code:         Sweto20A         Units:         Junit         RPID:         Pare         Pare           Water Sample         Batch ID: GC-1_981105         Test Code:         Sweto20A         Units:         Junit         RPID:	-Xylene	821.3	20	800	50.21	96.4%	78	107				
Bettodes:         Test Code:         Sw8020A         Init:         IpIC         Analysis         Date 115:59         Perp Date:           Water Sample         9510065         Run ID:         Cc1_1951105         SeqNo:         8472         SeqNo:         8472           Water Sample         9510065         Run ID:         Cc1_1951105         SeqNo:         8472         SeqNo:         8472           Result         PQL         SPK walue         SPK Ref Val         %REC         Low/Limit         RPD Limit         RPD Limit           Result         PQ         SPN         20         800         2.45         91.67         783         3.3%         10           1542         20         800         10.5         74.8         78         73         3.0%         14           732.8         20         800         11.36         92.8%         74         116         779.2         3.3%         14           753.8         20         80.0         11.36         92.8%         74         116         779.2         3.3%         14           753.8         20         80.1         11.36         92.8%         74         116         779.2         3.3%         14      <	oluene	779.2	20	800	11.36	96.0%	74	116				
Water Sample         B910085         Run ID:         GC-1_981105A         Service         B47         Service         B47           Result         POL         SPK Value         SPK Ref Val         %REC         LowLimit         RPD Ref Val         %RPD         IPOL           Ite         742.8         20         800         2.45         91.5%         76         72         3.3%         10           1         742.8         20         800         2.45         91.4%         78         17         23         11           1         742.8         20         800         79.8         91.4%         78         17         11           753.6         1         93.4%         78         16         779.2         3.3%         14           753.6         20         800         50.21         93.4%         76         779.2         3.3%         14           753.6         11.36         92.6%         74         116         779.2         3.3%         14           753.6         11.36         92.6%         74         116         779.2         3.3%         14           753.6         11.36         92.6%         74         116	ample ID: 9810085-10AMSD		Test Code:	SW8020A	Units: µg/L		Analysis	: Date 11/5/5	86	Prep Dat	le:	
Result         PQL         SPK value         SPK Kerl Val         KRED         Low         IpiDLimit         RPD Ret Val         %RPD         RPD Imit           1         742.8         20         800         2.45         91.5%         56         128         767.5         3.3%         11           1         742.8         20         800         7.45         91.5%         56         128         767.5         3.3%         11           1         743.2         20         800         7.982         91.4%         67         118         753.3         3.2%         10           775.3.8         20         800         50.21         93.4%         78         116         779.2         3.3%         14           753.8         20         800         11.36         92.8%         74         116         779.2         3.3%         14           753.8         11.36         92.8%         74         116         779.2         3.3%         14           753.4         11.36         92.8%         74         116         779.2         3.3%         14		9810085	Run ID:	GC-1_981105	٩		SeqNo:					
1     742.8     20     800     2.45     92.5%     56     128       1     742.8     20     800     10.5     91.5%     78     107       1     1     1     1     1     1     1     1       7     1     1     1     1     1     1     1       7     1     1     1     1     1     1     1       7     1     1     1     1     1     1     1       7     1     1     1     1     1     1     1       7     1     1     1     1     1     1     1       7     1     1     1     1     1     1     1       7     1     1     1     1     1     1     1       7     1     1     1     1     1     1     1       7     1     1     1     1     1     1     1       7     1     1     1     1     1     1     1       7     1     1     1     1     1     1     1       1     1     1     1     1     1     1	nalyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%КРD	RPDLimit	Qual
ref         742.8         20         800         10.5         91.5%         78         107           797.3         20         800         79.82         91.4%         67         118           797.3         20         800         11.36         93.4%         78         107           753.8         20         800         11.36         92.8%         74         116           ND - Not Detected at the Reporting Limit         S - Spike Recovery outside accepted recovery limits         5 - Spike Recovery outside accepted recovery limits	enzene	742.8	20	800	2.45	92.5%	56	128	767.5	3.3%	12	
1542     40     1600     79.82     91.4%     67     118       797.3     20     800     50.21     93.4%     78     107       753.8     20     800     11.36     92.8%     74     116       ND - Not Detected at the Reporting Limit	thylbenzene	742.8	20	800	10.5	91.5%	78	107	768.5	3.4%	11	
797.3         20         800         50.21         93.4%         78         107           753.8         20         800         11.36         92.8%         74         116           ND - Not Detected at the Reporting Limit         S - Spike Recovery outside accepted recovery limits         S - Spike Recovery outside accepted recovery limits	, p-Xylene	1542	40	1600	79.82	91.4%	67	118	1593	3.2%	10	
753.8         20         800         11.36         92.8%         74         116           s:         ND - Not Detected at the Reporting Limit         S - Spike Recovery outside accepted recovery limits	Xylene	797.3	20	800	50.21	93.4%	78	107	821.3	3.0%	14	
ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits	oluene	753.8	20	800	11.36	92.8%	74	116	779.2	3.3%	14	
ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits												
ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits							:					1
		betected at the Reporting Limit		S - Spil	ke Recovery outsic	de accepted rec	overy limits	-	B - Analyte detecte	d in the associa	ited Method E	3lank

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CLIENT: On Work Order: 98	On Site Technologies, Limited Partnership	tnership			şı ,		QC	QC SUMMARY REPORT	ARY	REPC	)RT
	4-1532						Labo	Laboratory Control Spike - generic	trol S <sub>J</sub>	vike - ge	neric
Sample ID: LCS WATER	R Batch ID: GC-1_981105 Test Code: SW8020A	Test Code:	SW8020A	Units: µg/L		Analysis	Analysis Date 11/5/98	ā	Prep Date:		
Client ID:	9810085	Run ID:	GC-1_981105A	P.		SeqNo:	8469				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	LowLimit HighLimit RPD Ref Val		%RPD F	RPDLimit	Qual
Benzene	38.77	~	40	0	96.9%	56	128	     			
Ethylbenzene	39.01	-	40	0	97.5%	78	107				
m,p-Xylene	77.04	2	80	0	96.3%	67	118				
o-Xylene	39.61	-	40	0	%0.66	78	107				
Toluene	30.05		40	0.0964	97.4%	74	116				
			2			-	2				

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Qualifiers: ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

f recovery limits B - Analyte detected in the associated Method Blank

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CLIENT: On Site 1 Work Order: 9810085		•									
<b>Project:</b> 4-1532	On Site Technologies, Limited Partnership 9810085 4-1532	rtnership					Continu	QC SUMMARY REPORT Continuing Calibration Verification Standard	MMAR on Verific	QC SUMMARY REPORT Calibration Verification Standard	<b>DRT</b> ndard
Sample ID: CCV1 NAP_98110	Batch ID: GC-1_981105	Test Code:	SW8020A	Units: µg/L		Analysis	Analysis Date 11/5/98	98	Prep Date:	ate:	
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	-	20	0	96.6%	85	115		; i [		
Ethylbenzene	19.59	-	20	0	97.9%	85	115				
m,p-Xylene	38.53	2	40	0	96.3%	85	115				
o-Xylene	19.86	-	20	0	99.3%	85	115				
Toluene	19.52	-	20	0	91.6%	85	115				
1,4-Difluorobenzene	89.14	0	100	0	89.1%	20	130				
4-Bromochlorobenzene	102.8	0	100	0	102.8%	20	130				
Fluorobenzene	87.65	0	100	0	87.7%	20	130				
Sample ID: CCV2 NAP_98110	Batch ID: GC-1_981105	Test Code: SW8020A	SW8020A	Units: µg/L		Analysis	Analysis Date 11/5/98	86	Prep Date:	ate:	
Client ID:	9810085	Run ID:	GC-1_981105A	A		SeqNo:	8468				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	18.77	-	20	0	93.9%	85	115				
Ethylbenzene	19	-	20	0	95.0%	85	115				
m,p-Xylene	37.35	2	40	0	93.4%	85	115				
o-Xylene	19.29	-	20	0	96.4%	85	115				
Toluene	18.99	•	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				
Oualifiers: ND - Not De	ND - Not Detected at the Reporting Limit		S - Spi	S - Spike Recovery outside accepted recovery limits	le accepted rec	overy limits		B - Analyte detected in the associated Method Blank	d in the assoc	iated Method F	3 ank
	J - Analyte detected below quantitation limits	its	R - RP	R - RPD outside accepted recovery limits	l recovery limit	S					1 of 1

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# On Site Technologies, LTD.

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Work Order: Project:	On Site Techno 9810085 4-1532	ologies, Limite	d Partnership	QC SUMMARY REPORT SURROGATE RECOVERIES
Test No:	SW8020A			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	5 89.1	103	87.6	
CCV2 NAP_981105	5 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

On Site Technologies, LTD.	cilliologics, L I D.								
CLIENT: Work Order: Project:	On Site Technologies, Limited Partnership 9810085 4-1532	urtnership					QC SUMMARY REPORT Method Blank	IMARY	Y REPORT Method Blank
Sample ID: MB1 Client ID:	Batch ID: GC-1_981105 Test Code: 1 9810085 Run ID: 0	Test Code: SW Run ID: GC	SW8021 U	Units: µg/L	An	Analysis Date 11/5/98 SeqNo: 8474	/5/98 '4	Prep Date:	
Analyte	Result		SPK value SP	SPK Ref Val	%REC LOWL	imit HighLim	LowLimit HighLimit RPD Ref Val	%RPD	RPDLimit
Napthalene	β	-							
Qualifiers:	ND - Not Detected at the Reporting Limit 1 - Analyte detected helow quantitation limits	<u>+</u>	S - Spike R R - RPD ou	<ul> <li>S - Spike Recovery outside accepted recovery limits</li> <li>R - RDD outside accented recovery limits</li> </ul>	pted recovery lii erv limits	mits	B - Analyte detected in the associated Method Blank	n the associa	ted Method Bl

CLIENT:	0	OIL UTIN I VUILIVIUGIVO, LILL.								à		0
Work Order: Project:	On Site T 9810085 4-1532	On Site Technologies, Limited Partnership 9810085 4-1532	tnership						QC SUI	<b>MMAR</b> Sampl	QC SUMMARY REPORT Sample Matrix Spike	<b>JRT</b> Spike
Sample ID: 9810085-10AMS	9810085-10AMS	Batch ID: GC-1_981105	Test Code: SW8021	SW8021 GC-1 981105B	Units: µg/L		Analysis SecNo <sup>-</sup>	Analysis Date 11/5/98 Section: 8479	86	Prep Date:	ite:	
	aiduipo	Result	ب	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	LowLimit HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Napthalene		1198	20	1000	211.5	98.7%	70	130				
Sample ID: 9810085-10AMSD Client ID: Water Sample	9810085-10AMSD Water Sample	Batch ID: GC-1_981105 9810085	Test Code: SW8021 Run ID: GC-1_98	SW8021 GC-1_981105B	Units: µg/L B		Analysis SeqNo:	Analysis Date 11/5/98 SeqNo: 8480	86	Prep Date:	ate:	
Analyte		Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Janthalene		1224	20	1000	211.5	101.2%	70	130	1198	2.1%	Ĵ.	
Napthalene		1224	20	1000	211.5	101.2%	70	130	1198	2.1%		15

ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits

Qualifiers:

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

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Sample (1)         LCS Vater         Bath (1)         C - 1         Sample (1)         Malysis Data (1)         Frag (1)         Pag (2)         Pag (2	CLIENT: Work Order: Project:	On Site Tech 9810085 4-1532	On Site Technologies, Limited Partnership 9810085 4-1532	rtnership						QC SUMMARY REPORT Laboratory Control Spike - generic	<b>MMAR</b> Control	Y REPO Spike - ge	OR
53.46         1         50         0         105.3%         85         115           ND - Not Detected at the Reporting Limit         5 - Splike Recovery outside accepted recovery outside accepted recovery outside accepted recovery limite	Sample ID: LCS I Client ID: Analyte				1105F	Units: <b>µg/L</b> t SPK Ref Val	%REC	Analysis SeqNo: LowLimit	s Date 11/5 8476 HighLimit	/98 RPD Ref Val	Prep Dä %RPD	, D	đ
ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits	Napthalene		53.46	~	22	0	106.9%	8	15				
	Qualifiers:	ND - Not Detecte	d at the Reporting Limit		S - Spike	e Recovery outsi	de accepted rec	overy limits		B - Analyte detected	in the associ	iated Method I	Blank

T:       On Site Technologies, Limited Partnership         order:       9810085         order:       9810085         A-1532       9810085         CCV1 NAP_98110       Batch ID: GC-1_981105         S:       CCV1 NAP_98110         Batch ID:       GC-1_981105         Result       PQL         Result       PQL         ne       51.38         nobenzene       93.28         ohnorbenzene       93.28         Oitlorobenzene       92.23         Oitlorobenzene       92.23         Oitlorobenzene       92.23         Oitlorobenzene       92.23         Result       PQL         Result       PQL         Result       PQL					QC SI	QC SUMMARY REPORT	<b>POR</b> T
Test Code: S Run ID: G PQL 1 0 0 0 7 Test Code: S Run ID: G					Conunuing Calivia	Continuing Calibration Verification Standard	Standar
Result         PQL           ne         51.38         1           robenzene         93.28         0           hlorobenzene         93.28         0           inforobenzene         92.23         0           inforobenzene         92.23         0           inforobenzene         92.00         0	C-1_981105B	Units: µg/L		Analysis SeqNo:	Analysis Date 11/5/98 SeqNo: 8475	Prep Date:	
ne     51.38     1       robenzene     93.28     0       norobenzene     98     0       Allorobenzene     92.23     0       izene     92.23     0       0: CCV2 NAP_98110     Batch ID: GC-1_981105     Test Code:       9810085     Run ID:     Result	SPK value SP	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	mit Qual
robenzene         93.28         0           Allorobenzene         98         0           Allorobenzene         98         0           izene         92.23         0           Dizene         92.105         Test Code:           Diseult         9810085         Run ID:           Result         PQL	20	0	102.8%	85	115		: : : :
Allorobenzene         98         0           izene         92.23         0           izene         92.23         0           0         50.01         92.00         0           0         50.02         98100         85         7est Code:           0         9810085         Run ID:         Result         PQL	100	0	93.3%	70	130		
CCV2 NAP_98110         Batch ID: GC-1_981105         Test Code:           9810085         Run ID:           Result         PQL	100	00	98.0% 92.7%	02 02	130		
D: CCV2 NAP_98110 Batch ID: GC-1_981105 Test Code: 9810085 Run ID: Result PQL			21-1-1				
Result PQL	31105B	UTILIS: <b>JUG/L</b>		SeqNo:	Analysis Date 11,3730 SeqNo: 8481		
	- SPK value SPI	SPK Ref Val	%REC	LowLimit	High	%RPD RPDLimit	mit Qual
Naothalene 53.72 1	20	0	107.4%	85	115		
benzene 93.96	100	0	94.0%	70	130		
ne 102.5	100	0	102.5%	20	130		
	100	0	92.1%	20	130		

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R - RPD outside accepted recovery limits

J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit

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# On Site Technologies, LTD.

Date: 11-Nov-98

Work Order: Project:	On Site Techno 9810085 4-1532 SW8021	ologies, Limite	d Partnership	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	5 93.3	98	92.2	
CCV2 NAP_981105	5 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	= F	iuorobenzene	70-130	
* Suri	rogate r	ecovery outside acceptanc	e limits	

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TECH		, 657 W. Maple • P. O. Box 2606 • Farmington NM 87499 LAB: (505) 325-5667 • FAX: (505) 325-6256	ite:	PL 1-2			Page	0
Purchas	Purchase Order No.: 4	- 1532		Name			Title	
	(a.		TF DT 8	Company				
D ICE MD	Company	Dept.			Iress			
7C 4VO 5EF	4		IS38 38	City, State, Zip	Zip			
11	City, State, Zip		<b>-</b>	Telephone No.	No.		Telefax No.	
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Sampler:	E C . They are		odmuN istnoO					
	SAMPLE IDENTIFICATION	MPLE MATRIX	BRES	2.45				LAB ID
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Authorized by:	zed by: (Client Signature Must Accompany Request)	Date						
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LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 30-Nov-98

Client:	On Site Technol	ogies, Limited Partne	ership	Client Sample I	nfo: Delasso	Loop Road Spill, Pon
Work Order:	9811039			Client Sample	ID: Sample	1 BTEX-N
Lab ID:	9811039-01A	Matrix: AQUEC	OUS	Collection D	ate: 11/12/98	8 11:15:00 PM
Project:	4-1532			COC Reco	ord: 5599	
Parameter		Result	PQL	Qual Units	DF	Date Analyzed

ВТЕХ	SW	8020A			Analyst: <b>HR</b>
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	SW	8021			Analyst: <b>HR</b>
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

R - RPD outside accepted recovery limits

S - Spike Recovery outside accepted recovery limits

E - Value above quantitation range

thod Blank Surr: - Surrogate

#### P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1



LAB: (505) 325-1556

### ANALYTICAL REPORT

Date: 30-Nov-98

Client: Work Order:	On Site Technol 9811039	ogies, Limited Partn	ership		-		Loop Road Spill, Pond 2 Oil & Grease
Lab ID:	9811039-02A	Matrix: AQUE	DUS		-	•	8 11:04:00 AM
Project:	4-1532				COC Reco	rd: 5599	
Parameter		Result	PQL	Qual	Units	DF	Date Analyzed
DIL AND GREAS	SE, T/R	E4	13.2				Analyst: HR
Oil & Grease, Tot	al 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

 ${\bf S}$  - 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

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1



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,

K-E

David Cox

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



LAB: (505) 325-1556

Date: 30-Nov-98

### On Site Technologies, LTD.

CLIENT:	On Site Technologies, Limited Partnership	
Project: Lab Order:	4-1532 9811039	CASE NARRATIVE
	<i>y</i> 0110 <i>0y</i>	

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

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

Sample U:         Mat         Tast Code         E 413.2         Units         mg/L         Amalyse Cale         Pert Dare:         1146.96         Pert Dare:         1146.96	UN SIG LECHIOLOGIES, L11J. CLIENT: On Site Technologie Work Order: 9811039 Project: 4-1532	On Site Technologies, Limited Partnership 9811039 4-1532	Partnership					QC SUN	UMARY	QC SUMMARY REPORT Method Blank
ND 5 S-Spike Recovery outside accepted recovery limits	Sample ID: <b>MB-61</b> Client ID: Analyte		Test Code: Run ID: PQL	E413.2 TPH 1_98111 SPK value	Units: <b>mg/L</b> 19 <b>B</b> SPK Ref Val		Analysis Date SeqNo: wLimit Highl	11/19/98 8902 Limit RPD Ref Val	Prep Dat %RPD	te: <b>11/18/98</b> RPDLimit Qual
ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits	Oil & Grease, Total F		κ							
		VD - Not Detected at the Reporting Limi	it	S - Spi	ike Recovery outside a	accepted recovery	y limits	B - Analyte detected	l in the associa	tted Method Blank

Analysis Date 11/19/98 SeqNo: 8907 LowLimit HighLimit RPD Ref Val	Prep Date: 11/18/98
HighLimit	
	%RPD RPDLimit
0 0 0	0.0% 15

J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit

Qualifiers:

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

1 of 1

LCS-61         Batch ID: 61         Test Code: E413.2         Unit:: mpL         Analysis Date 1110969         Pep Date: 1110969           961035         Run ID: TPH 1.9811195         SeqNo:         8604         SeqNo:         8604           .         Fast Code:         SY Karl Val         SR Ko Color in the platinini         RPD Inti           .         Fast Code:         SA         0         83.2%         80         120           .         Total Recoverable         7.4         5         8.3         0         83.2%         80         120	CLIENT: On Site 7 Work Order: 9811039 Project: 4-1532	On Site Technologies, Limited Partnership 9811039 4-1532	artnership						QC SUMMARY REPORT Laboratory Control Spike - generic	<b>AMARY</b> Control S <sub>1</sub>	QC SUMMARY REPORT aboratory Control Spike - generic
Result         PQL         SPK Ref Value         %RED         Lowint         RPD Ref Val         %RPD         RPD Interval           Lase.         Total Recoverable         7.4         5         8.3         0         80.2%         80         120           Lase.         Total Recoverable         7.4         5         8.3         0         80.2%         80         120	Sample ID: LCS-61 Client ID:	Batch ID: <b>61</b> 9811039	;e	E413.2 TPH 1_98111{	Units: mg/L 3B			Date 11/19 8904	86/6	Prep Date	
	Analyte Oil & Grease Total Recovi	-	5 PQL	SPK value	SPK Ref Val	%REC		HighLimit 120	RPD Ref Val	i	RPDLimit Qual
ND - Not Detected at the Renorting Limit S - Spike Recovery outside accepted recovery limits			0	2 0							
	Oualifiers: ND - N	vot Detected at the Reporting Limit		S - Spil	ke Recovery outsi	de accepted reco	overy limits	H	B - Analyte detected	in the associate	ed Method Blan

Test Code: <b>E413.2</b> Units: <b>mg/L</b> Run ID: <b>TPH 1_981119B</b> PQL SPK value SPK Ref Val 25 124 0	%REC	A collect	,		
981119E value S 124	%REC	Analysia	Continuing Calibration Verification Standard	n Verification Star	ndard
	%REC	SeqNo:	Analysis Date 11/19/98 SeqNo: 8903	Prep Date:	
		LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
	100.8%	80	120		/ 
Test Code: E413.2 Units: mg/L Run ID: TPH 1_981119B	2	Analysis SeqNo:	Analysis Date 11/19/98 SeqNo: 8909	Prep Date:	
SPK value SPK Ref Val	%REC	LowLimít	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
124 0	101.6%	G			
		00	120		
		0 101 60			

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B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits

Qualifiers:

: . . .

On Site Te	On Site Technologies, LTD.	:		Date: 30-Nov-98
CLIENT: Work Order: Project:	On Site Technologies, Limited Partnership 9811039 4-1532	arthership	ď	QC SUMMARY REPORT Method Blank
Sample ID: <b>MB1</b> Client ID: Analyte	Batch ID: GC-1_981123 9811039 Result	Test Code: SW8021 Run ID: GC-1_981123B PQL SPK value S	Units: µg/L Analysis Date 11/23/98 SeqNo: 9020 SPK Ref Val %REC LowLimit HighLimit RPD Ref Val	Prep Date: ef Val %RPD RPDLimit Qual
Napthalene	Ð	←		
Qualifiers:	ND - Not Detected at the Reporting Limit		S - Spike Recovery outside accepted recovery limits B - Analy	B - Analyte detected in the associated Method Blank

	Site Technolo	On Site Technologies, Limited Partnership	rtnership						QC SUI	<b>OC SUMMARY REPORT</b>	Y REPC	RT
Work Order:         9811039           Project:         4-1532	(039 32								ŗ	Sample	Sample Matrix Spike	pike
Sample ID: 9811039-01AMS Client ID: Sample 1 BTEX-N	z	Batch ID: GC-1_981123 9811039	Test Code: SW8021 Run ID: GC-1_98	SW8021 GC-1_981123B	Units: µg/L B		Analysis SeqNo:	Analysis Date 11/23/98 SeqNo: 9021	86/	Prep Date:		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	LowLimit HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Napthalene		1070	10	1000	13.69	105.6%	70	130				
1		Batch ID: GC-1_981123	<u>ioi</u>	SW8	Units: µg/L		Analysis	Analysis Date 11/23/98	1/98	Prep Date:		
Client ID: Sample 1 BTEX-N Analyte	<b>N-X</b>	9811039 Result	Run ID: PQL	GC-1_981123B SPK value §	<b>B</b> SPK Ref Val	%REC	SeqNo: LowLimit	9022 HighLimit	9022 HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Napthalene		1057	0	1000	13.69	104.3%	02	130	1070	1.2%	43	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2

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I of I

R - RPD outside accepted recovery limits

J - Analyte detected below quantitation limits

Work Order:         9811039           Project:         4-1532           Sample ID: LCS         Batch ID: GC-1_981123           Client ID:         9811039           Analyte         Result           Napthalene         114.5	1						QC SUN	<b>IMAR</b>	QC SUMMARY REPORT
D: LCS							Laboratory (	Control S	Laboratory Control Spike - generic
lapthalene		Test Code: SW8021 Run ID: GC-1_981123B	Units: µg/L B		Analysis [ SeqNo:	Analysis Date 11/23/98 SeqNo: 9019	86,	Prep Date:	ate:
lapthalene	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	LowLimit HighLimit RPD Ref Val	%RPD	RPDLimit Qual
	6.41 6.4	100	0	114.5%	SS S	15		, ,	
Qualifiers: ND - Not Detected at the Reporting Limit	orting Limit antitation limite	S - Spil R - RPI	S - Spike Recovery outside accepted recovery limits R - RPD outside accented recovery limits	e accepted reco recovery limits	very limits	ш	B - Analyte detected in the associated Method Blank	in the associa	ated Method Blank 1 of 1

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	On Site Technologies, Limited Partnership	utnership						QC SUI	MMAR	QC SUMMARY REPORT	DRT
Work Urder: 9811039 Project: 4-1532							Continu	Continuing Calibration Verification Standard	on Verific	ation Sta	ndard
Sample ID: CCV1 NAP_98110	Batch ID: GC-1_981123	Test Code: SW8021	: SW8021	Units: µg/L		Analysis	Analysis Date 11/23/98	3/98	Prep Date:	ite:	
Client ID:	9811039	Run ID:	GC-1_981123B	8		SeqNo:	9017	_			
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Quai
Napthalene	:		50	0	110.7%	85	115				
1,4-Difluorobenzene	93.29	0	100	0	93.3%	70	130				
4-Bromochlorobenzene	100.9	00	100	00	100.9% 02.0%	02 02	130				
Indionelizerie	+n'32				B/ 0.76	2					
Sample ID: CCV2 NAP_98110	Batch ID: GC-1_981123	Test Code: SW8021	SW8021	Units: µg/L		Analysis	Analysis Date 11/23/98	3/98	Prep Date:	ite:	
Client ID:	9811039	Run ID:	GC-1_981123B	8		SeqNo:	9018				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Napthalene	54.23	-	50	0	108.5%	85	115				
1,4-Difluorobenzene	93.4	0	100	0	93.4%	20	130				
4-Bromochlorobenzene	100.6	0	100	0	100.6%	70	130				
Fluorobenzene	91.82	0	100	0	91.8%	70	130				
	N 0. 1. 2.	5	3	5	8 0 	2	2				

I of I

R - RPD outside accepted recovery limits

J - Analyte detected below quantitation limits

# On Site Technologies, LTD.

9811039

On Site Technologies, Limited Partnership

CLIENT:

Work Order:

1

## QC SUMMARY REPORT SURROGATE RECOVERIES

÷	4-1532			SURROGATE RECOVERIES
Test No:	SW8021			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	5 93.3	101	92	
CCV2 NAP_98110	5 93.4	100	91.8	
LCS	93.4	100	91.9	
MBI	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

<b>CLIENT:</b>	On Site Techn	On Site Technologies, Limited Partnership	rtnership						OC SUMMARY REPORT	IMAR	V REP(	L A C
Work Order: Project:	9811039 4-1532										Method Blank	lank
Sample ID: MB1	Bat	Batch ID: GC-1_981123	Test Code:	SW8020A	Units: µg/L		Analysis	Analysis Date 11/23/98	8	Prep Date:	te:	[
Client ID:		9811039	Run ID:	GC-1_981123A			SeqNo:	8982				
Analyte		Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RI	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		.0733	-									ר
Ethylbenzene		.1182	-									J
m,p-Xylene		.2526	2									٦
Methyl tert-Butyl Ether	ther	QN	-									
o-Xylene		.1434	<del>.</del> .									
Compositor		. 1320 Botch ID: GC 1 081133	Toet Code.	VUCUBINIS	t Inite: un/l		Analysis	Analysis Data 11/23/08		Dran Date	te.	,
	המו	100-1-00-1-100									ż	
Client IU:		9811039	Kun IU:	GC-1_981123C	5		SeqNo:	9080				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RI	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	 ; : : :	.3329	-									~
Ethylbenzene		.3386	-									-7
m,p-Xylene		.6952	2									-
o-Xylene		.3056	~									٦
Toluene		.4393	-									<b>ר</b>
Qualifiers:	ND - Not Detected	ND - Not Detected at the Reporting Limit		S - Spil	S - Spike Recovery outside accepted recovery limits	accepted recov	very límíts	B	B - Analyte detected in the associated Method Blank	n the associa	ited Method B	lank
	J - Analyte detected	J - Analyte detected below quantitation limits	its	K - KP	R - RPD outside accepted recovery limits	recovery limits						I of I

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On Site Technologies, Limited Partnership				•	QC SUMMARY REPORT	IMAR	Y REPC	DRT
						Sample	Sample Matrix Spike	pike
Test Code: SW8020A Ur	Units: µg/L		Analysis	Analysis Date 11/23/98		Prep Date:	ie:	
GC-1_981123A			SeqNo:	8983				
PQL SPK value SPI	SPK Ref Val	%REC	LowLimit	HighLimit RPD	RPD Ref Val	%RPD	RPDLimit	Qual
10 400	1.118	100.3%	56	128	   			   
	1.616	101.1%	78	107				
20 800	3.587	100.6%	67	118				
10 400	0	98.9%	70	130				
	1.83	103.2%	78	107				
10 400	1.968	101.5%	74	116				
Test Code: SW8020A Un	Units: µg/L		Analysis	Analysis Date 11/23/98		Prep Date:	:e:	
Run ID: GC-1_981123A			SeqNo:	8984				
PQL SPK value SPI	SPK Ref Val	%REC	LowLimit	HighLimit RPD	RPD Ref Val	%RPD	RPDLimit	Qual
10 400	1.118	97.1%	56	128	402.4	3.2%	12	
10 400	1.616	97.7%	78	107	406	3.4%	1	
	3.587	97.5%	67	118	808.1	3.0%	10	
	0	97.2%	70	130	395.8	1.8%	15	
10 400	1.83	100.3%	78	107	414.8	2.9%	14	
10 400	1.968	98.3%	74	116	408.1	3.2%	14	
Test Code: SW8020A Un	Units: µg/L		Analysis	Analysis Date 11/23/98		Prep Date:	ë	
Run ID: GC-1_981123C			SeqNo:	9087				
PQL SPK value SPF	SPK Ref Val	%REC	LowLimit	HighLimit RPD	RPD Ref Val	%RPD	RPDLimit	Qual
10 400	0.702	97.5%	56	128				
10 400	1.038	99.2%	78	107				
20 800	2.271	98.4%	67	118				
10 400	1.243	100.8%	78	107				
10 400	1.382	99.1%	74	116				
S - Spike Ro	S - Spike Recovery outside accepted recovery limits	accepted reco	wery limits	B - Aní	alyte detected	n the associa	ted Method B	lank
S - Spike Re	scovery outside	accepted reco	wery limits	В	1 - An	l - Analyte detected i	l - Analyte detected in the associa	B - Analyte detected in the associated Method Blank

On Site Technologies, Limited Partnership
<b>CLIENT:</b>

Work Order: 9811039 Project: 4-1532

QC SUMMARY REPORT

Sample Matrix Spike Duplicate

<b>Project:</b> 4-1532											
Samula ID: 9811039-01AMSD Batch ID: GC-1_981123 Test Code:	Batch ID: GC-1_981123		SW8020A L	Units: µg/L		Analysis	Analysis Date 11/23/98	/98	Prep Date:	te:	
Client ID: Sample 1 BTEX-N	9811039		GC-1_981123C			SeqNo:	9088				
Analyte	Result	PQL	SPK value SPK Ref Val	PK Ref Val		LowLimit	HighLimit	LowLimit HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Benzene Ethylbenzene m.p.Xylene o-Xylene Toluene	380.6 387.1 769.8 395.7 395.7	0 1 0 1 0 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0	400 800 400 400 400	0.702 1.038 2.271 1.243 1.382	95.0% 96.5% 98.6% 98.6%	56 78 67 78 74	128 107 118 107 116	390.7 397.9 789.3 404.6 397.6	2.6% 2.8% 2.5% 2.6%	1 1 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	

 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: U Work Order: 9	On Site Technologies, Limited Partnership 9811039	rtnership						QC SUMMARY REPORT 1 aboratory Control Spike - generic	QC SUMMARY REPORT aboratory Control Spike - generic	Y REPC Spike - ge	<b>JRT</b> meric
Project: 4	4-1532										
Sample ID: LCS WATER	ER Batch ID: GC-1_981123	Test Code:	Test Code: SW8020A	Units: µg/L		Analysis	Date	3/98	Prep Date:	ite:	
Client ID:	9811039	Run ID:	GC-1_981123A	3A		SeqNo:	8981				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
	78.96	<del>.</del>	80	0.0733	98.6%	56	128				
Derizerie Ethidhonzene	79.94	~	80	0.1182	99.8%	78	107				
m n-Yvlana	158.2	5	160	0.2526	98.7%	67	118				
Mathvi tert-Butvi Ether		-	80		95.8%	70	130				
Melliyi terroutyi bulo A-Xvlene		~	80	0.1434	101.1%	78	107				
Toluene	80.12	-	80	0.1328	100.0%	74	116				
Samula ID: 1 CS WATER	ER Batch ID: GC-1 981123	Test Code:	SW8020A	Units: µg/L		Analysis	Analysis Date 11/23/98	3/98	Prep Date:	ate:	
Client ID:		Run ID:	GC-1_981123C			SeqNo:	9085				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ranzane	41.58	-	40	0.3329	103.1%	56	128				
	42.82	-	40	0.3386	106.2%	78	107				
	84.33	5	80	0.6952	104.5%	67	118				
ni,p-Ayicire A-Yvlane	42.96	<del>.</del>	40		106.6%	78	107				
Toluene	42.36	-	40	0.4393	104.8%	74	116				
					-			D Andres detected in the associated Method Rlank	n a scor	inted Method	Rlank
Qualifiers: NI	ND - Not Detected at the Reporting Limit		S - Spike Recovery outside accepted reco	S - Spike Recovery outside accepted recovery limits	ide accepted ree	covery limits		B - Analyte octect	LO IN UNC ASSUC	וקובה ואוכווויטים	DIAIIA

On Site Technologies, Limited Partnership         OC SUMMARY REPOR           On Site Technologies, Limited Partnership         Continuing Calibration Verification Standa           VI OCD00607         Batch ID: GC-1_981123         Test Oole         PMC         Pmp Date:           VI OCD00607         Batch ID: GC-1_981123         Test Oole         PMC         Sector         Sector<	UII DIRE I COIIIIDIOBICS, LI LU	1CS, L I D.										
N. 1000         Continuing Calibration Verification Suma 4-153         Continuing Calibration Verification Suma 84103         Continuing Calibration Verification Sum 84103         Continuing Calibration Verification Verification Verification Verification Verification Verification Sum 84103         Continuing Calibration Verification Verif		Technologies, Limited Pa	ırtnership						QC SUI	<b>MMAR</b>	Y REPO	<b>JRT</b>
I Test Code:       SwarD A       Units.       Units.       Analysis Date       Trep. Date:         Run ID:       GC-1_981123A       SeqNo:       8979       8979       PPD.         PDL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD. Inter       APD.       RPD.Limit       Q         1       20       0       991%       85       115       %RPD       RPD.Limit       Q         1       20       0       1005%       85       115       %RPD       RPD.Limit       Q         1       20       0       1005%       85       115        NRPD.       RPD.Limit       Q         1       20       0       1005%       85       115         Q       PPP.Limit       Q         0       100       0       1012%       85       115        PPP.Limit       Prop       PPP.Limit       Q         1       20       0       1012%       85       115        PPP.Limit       Q       PPP.Limit       Q       PPP.Limit       Q       PPP.Limit       Q       PPP.Limit       Q       PPP.Limit       PPP.Limit       PPPP.Limit		~						Continuir	ng Calibratic	on Verific	ation Star	ıdard
91103         Run (D)         GC-1_9112A         San(b)         Sa	Sample ID: CCV1 QC0606/07	ł	Test Code:	SW8020A	Units: µg/L		Analysis	s Date 11/23/9	8	Prep Da	ate:	ļ
Result         POL         SPK Kellvale         SPK Kellvale         SPK Kellvale         SPK Kellvale         SPK Value	Xient ID:	9811039	Run ID:	GC-1_981123	٨		SeqNo:					
NE         1         20         0         91%         65         115           2042         1         20         0         1021%         65         115           2041         1         20         0         1023%         65         115           2075         1         20         0         1033%         65         115           2076         1         20         0         1033%         65         115           2076         0         1033%         65         115         70         130           2070         0         101.2%         70         130         70         130           bentzene         104         0         101.2%         70         130         70         130           bentzene         104         0         102.4%         70         130         70         130           bentzene         104         56         10         101.2%         66-116         70         130           bentzene         10         101.2%         56-16         70         130         70         130           bentzene         11         20         67-13         56-16 <t< th=""><th>nalyte</th><th>Result</th><th>PQL</th><th>SPK value</th><th>SPK Ref Val</th><th>%REC</th><th>LowLimit</th><th></th><th>PD Ref Val</th><th>%RPD</th><th>RPDLimit</th><th>Qual</th></t<>	nalyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit		PD Ref Val	%RPD	RPDLimit	Qual
2042         1         20         0         102.1%         55         115           VETher         1935         1         2         40         0         1005%         65         115           Z075         1         20         0         1012%         65         115           Z076         1         20         0         1012%         65         115           Z076         1         20         0         1012%         70         130           Z070         0         10         1012%         70         130         70         130           Exercise         83.6         0         1012%         70         130         70         130           Exercise         104         0         102.5%         56         70         130         70         130           Exercise         Math         Mats         Mats         Mats         Mats         141         70         141         70         141         70         141         70         141         70         141         70         141         70         141         70         141         70         141         70         141         70	enzene	19.81	-	20	0	99.1%	85	115				
MEHer         40.24         2         40         10         50         85         115         715           MEHer         20,56         1         20         0         103,8%         85         115         715           Zorde         1         20         0         103,8%         85         15         715           Zorde         30,6         0         100         0         101,4%         70         130           Zorde         93,16         0         100         0         144,0%         70         130           Zorde         811,05         0         100         0         144,0%         70         130           Perp Inter         57,24         0         100         0         144,0%         70         130           Presult         Polit         GC-1,981,123         Text Code         Swero         70         130           Presult         Polit         GC-1,981,123         Text Code         Swero         70         130           Presult         Polit         GC-1,981,123         Text Code         Swero         70         130           Presult         Polit         CC-1,981,123         Text Code	thylbenzene	20.42		20	0	102.1%	85	115				
Vi Elher         19.9         1         20         0         99.7%         85         115           zene         0.76         1         20         0         101.2%         85         115           zene         0.36         0         100         0         101.2%         85         115           zene         83.36         0         100         0         104.0%         70         130           benzene         87.34         0         100         0         104.0%         70         130           benzene         87.34         0         100         0         104.0%         70         130           benzene         87.3         0         100         0         104.0%         70         130           benzene         91103         Result         POL         SrV value         SrV result         Ana/ysis Date         112398         Prep Date:           V2 COR0607         Batch ID: GC-1_91123         Fact Coult MIT         Mightlmit         RPDRef Val         %RPD         RPDI.mit         Q           V2 COR0607         Batch ID: GC-1         91123         Fact Coult MIT         Mightlmit         RPDI.mit         Q           115 </td <td>,p-Xylene</td> <td>40.24</td> <td>5</td> <td>40</td> <td>0</td> <td>100.6%</td> <td>85</td> <td>115</td> <td></td> <td></td> <td></td> <td></td>	,p-Xylene	40.24	5	40	0	100.6%	85	115				
2076         1         20         0         103.8%         55         115           zere         93.25         1         20         10         0         101.2%         55         115           benzene         104         0         100         0         93.2%         70         130           benzene         93.36         0         100         0         97.2%         70         130           benzene         104         0         100         0         97.2%         70         130           benzene         93.16         100         0         97.2%         70         130           value         SPM value         SPM value         SPM value         SPM value         SPM value         SPM value           VEben         Path         Path         Main         RPD AFI val         %RPD         RPD Init         0           VEben         20.68         1         20         0         103.4%         85         115         15           VEben         21.27         1         20         10         0         102.6%         86         115         15           Zane         8         1         2	lethyl tert-Butyl Ether	19.95	-	20	0	99.7%	85	115				
2025         1         20         0         101.2%         65         115           Rene         104         00         104.0%         70         130           Rene         104         0         104.0%         70         130           Rene         104         0         104.0%         70         130           Rene         104         0         104.0%         70         130           Rene         104.0%         Rene         171.3395         Pate Table         Prep Date:           VI Cold         Batch ID:         GC1_g61123         Test Cole         SeeNo         980         Ren           Result         PGL         SPK Ref Val         %REC         Lowill-Himit         RPD Ref Val         MRP           VEN         20.68         1         20         0         103.4%         85         115           VEN         21.27         1         20         0         104.4%         85         115           VEN         21.27         1         20         0         104.4%         85         115           Zene         81.3         115         115         115         115         115	.Xylene	20.76	~	20	0	103.8%	85	115				
crene         83.46         70         130           benzene         104         0         100         0         140%         70         130           benzene         87.24         0         100         0         100%         70         130           cv2 QC0606/07         Barth ID: GC-1_981123         Test Code: SW8020A         Units: µg/L         Analysis Date 1123/98         Prep Date:           811039         Run ID:         GC-1_981123         Test Code: SW8020A         Units: µg/L         Analysis Date 1123/98         Prep Date:           811039         Run ID:         GC-1_981123         SeqNo:         890         SeqNo:         890           result         POL         SPV value         SPK Ret Val         %REC         LowLimit<         RPD Ref Val         %RPD         RPDLimit         Q           2127         1         20         0         103.4%         85         115         2	oluene	20.25	-	20	0	101.2%	85	115				
Dencente         1/3         0         100         0         104.0%         70         130           St724         1         0         912.%         70         130         130           St720060607         Batch (D: GC-1_961123)         Test Code:         SW822A         Units: $\mu g/L$ Analysis         Data         172398         Prep Date:           961103         Result         PQL         SYK det Val         MREC         LowLinit         RPD Ret Val         MREC         LowLinit         RPD Ret Val         MRPD         RPD Linit         Q           1         20         SPK Ret Val         MREC         LowLinit         RPD Ret Val         MRPD         RPD Linit         Q           1         20         0         103.4%         85         115         SPC Linit         Q	4-Difluorobenzene	89.36	0	100	0	89.4%	10	130				
v0100097.2%70130V2 QC060607Batch ID: GC-1_981123Test Code: SW8020AUnits: $\mu g/L$ Analysis Date 1123/98Prep Date:9811039Run ID:GC-1_981123Test Code: SW8020AUnits: $\mu g/L$ Analysis Date 1123/98Prep Date:9811039Run ID:GC-1_981123SPK Ret ValueSPK Ret ValueSPK Ret ValueSPK Ret ValueNP981103ResultPQLSPK Ret ValueSPK Ret ValueSPK Ret ValueSPK Ret ValueSPK Ret ValueNP9811031200103.4%85115NP20.681200106.4%8511521.271200106.3%7013021.521200106.3%7013021.521200104.0%7013021.521200104.0%7013021.521200104.0%7013087.420100087.4%70130ND - Not Detected at the Reporting LimitS - Spike Recovery outside accepted recovery limitsN- Analyte detected in the associated Method BlankJ - Analyte detected blow quantiation limitsR - RPD outside accepted recovery limitsR - Analyte detected in the associated Method Blank	Bromochlorobenzene	104	0	100	0	104.0%	70	130				
V2 G00606/07Batch ID:GC-1_981123Test Code:SW020AUnits: $\mu_{II}$ Analysis Date11/23/16Prep Date:9811039Run ID:GC-1_981123SeqNo:890890890890 $ResultPOLSPV valueSPK Ref Val%RECLowLimitHighLimitRPD Ref Val\omega_RPDRPDLimitQLResultPOL1200103.4%85115\omega_RPDRPDLimitQL20.681200103.4%85115\omega_RPDRPDLimitQL21.271200103.4%85115\omega_RPDRPDLimitQL21.271200103.4%85115\omega_RPDRPDLimitQL\omega_RPD1200106.4%85115\omega_RPDRPDLimitQL\omega_RPD1200106.4%85115\omega_RPD\omega_RPDRPDLimit\omega_RPD\omega_RPD87.420106.0%70130\omega_RPD87.4%130\omega_RPDRPDLimit\omega_RPDRPDLimit\omega_RPDRPDLimit\omega_RPDRPDLimit\omega_RPDRPDLimit\omega_RPDRPDLimit\omega_RPD\omega_RPDRPDLimit\omega_RPD\omega_RPD\omega_RPDRPDLimit\omega_RPD\omega_RPD\omega_RPD\omega_RPD\omega_RPD\omega_RPD\omega_RPD\omega_RPD\omega_RPD\omega_RPD\omega_RPD\omega_RPD\omega_RPD\omega_RPD\omega_RPD$	luorobenzene	87.24	0	100	0	87.2%	20	130				
9811030       Run ID:       GC1_g81123A       SecNo:       989         Result       PQL       SPK value       SPK Ret Val $\mbox{KREC}$ LowLimit       HighLimit       RPD Ret Val $\mbox{KRPD}$ RPD Limit       QL         Result       PQL       SPK Ket Val $\mbox{KREC}$ LowLimit       HighLimit       RPD Ret Val $\mbox{KRPD}$ RPD Limit       QL         20.568       1       2       0       106.4%       85       115 $\mbox{KRPD}$ RPD Limit       QL         21.27       1       20       0       106.4%       85       115 $\mbox{KRPD}$ RPD Limit       QL         y Ether       21.27       1       20       0       106.4%       85       115 $\mbox{KRPD}$ RPD Limit       QL         21.25       1       20       0       107.0%       85       115 $\mbox{KRPD}$ $\mbox{KRPD}$ $\mbox{KRPD}$ $\mbox{KRPD}$ $\mbox{KRPD}$ $\mbox{KRPD}$ $\mbox{KRPD}$ $\mbox{KRPD}$ $\mbox{KRPD}$ $\mbox{KRPD}$ $\mbox{KRPD}$ $\mbox{KRPD}$ $\mbox{KRPD}$ $\mbox{KRPD}$ $\mbox{KRPD}$ $\mbox{KRPD}$ $\mbox{KRPD}$ $KRPD$	ample ID: CCV2 QC0606/07	Batch ID: GC-1_981123	Test Code:	SW8020A	Units: µg/L		Analysis	5 Date 11/23/9	8	Prep Da	lte:	
Result         PQL         SPK value         SPK Ref Val         %RFC         LowLimit         HghLimit         RPD Ref Val         %RPD         RPDLimit         Q           20.68         1         20         0         103.4%         85         115         %RPD         RPDLimit         Q           21.27         1         20         0         103.4%         85         115          115          115          115           115	lient ID:	9811039	Run ID:	GC-1_981123.	A		SeqNo:					
20.68     1     20     0     103.4%     85     115       21.27     1     20     0     106.4%     85     115       21.27     1     20     0     106.4%     85     115       21.27     1     20     0     104.4%     85     115       21.52     1     20     0     107.6%     85     115       21.52     1     20     0     107.6%     85     115       21.65     1     20     0     107.6%     85     115       21.05     1     20     0     107.6%     85     115       21.05     1     20     0     107.6%     85     115       21.05     1     20     0     104.0%     70     130       benzene     89.3     0     104.0%     70     130       87.4%     0     104.0%     70     130       ND - Not Detected at the Reporting Limit     5     5     5       ND - Not Detected below quantilation limits     8 - Analyte detected in the associated Method Blank	nalyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit		Ref Val	%RPD	RPDLimit	Qual
VI Ether     21.27     1     20     0     106.4%     85     115       VI Ether     20.4     1     20     0     104.4%     85     115       Zene     21.52     1     20     0     107.6%     85     115       Zene     21.52     1     20     0     107.6%     85     115       Zene     89.3     0     100     0     107.6%     85     115       Zene     10.4     0     100     0     104.0%     70     130       benzene     87.42     0     100     0     87.4%     70     130       benzene     87.42     0     100     0     87.4%     70     130       ND - Not Detected at the Reporting Limit     5 - Spike Recovery outside accepted recovery limits     B - Analyte detected in the associated Method Blank	enzene	20.68		20	0	103.4%	85	115		       		
41.75       2       40       0       104.4%       85       115         V Ether       20.4       1       20       0       102.0%       85       115         21.52       1       20       0       107.6%       85       115         Zene       89.3       0       107.6%       85       115         Zene       89.3       0       104.0%       70       130         Denzene       89.3       0       104.0%       70       130         Server       104       0       104.0%       70       130         Denzene       87.42       0       104.0%       70       130         No benzene       87.42       0       100       0       87.4%       70       130         No benzene       No to becoted at the Reporting Limit       5       57.4%       70       130       8. Analyte detected in the associated Method Blank         ND - Not Detected at the Reporting Limit       S - Spike Recovery outside accepted recovery limits       B - Analyte detected in the associated Method Blank         J - Analyte detected below quantitation limits       S - Spike Recovery outside accepted recovery limit       B - Analyte detected in the associated Method Blank	thylbenzene	21.27	-	20	0	106.4%	85	115				
v/ Ether       20.4       1       20       0       102.0%       85       115         21.52       1       20       0       107.6%       85       115         zene       89.3       0       106       0       105.3%       85       115         zene       89.3       0       100       0       104.0%       70       130         benzene       104       0       100       0       87.4%       70       130         benzene       104       0       100       0       87.4%       70       130         benzene       100       0       87.4%       70       130       130         ND - Not Detected at the Reporting Limit       S - Spike Recovery outside accepted recovery limits       B - Analyte detected in the associated Method Blank         J - Analyte detected below quantitation limits       S - Spike Recovery outside accepted recovery limits       B - Analyte detected in the associated Method Blank	,p-Xylene	41.75	2	40	0	104.4%	85	115				
21.52       1       20       0       107.6%       85       15         Zene       21.05       1       20       0       105.3%       85       15         Zene       89.3       0       100       0       89.3%       70       130         Denzene       104       0       100       0       104.0%       70       130         Berzene       87.4%       70       130       130       130         ND - Not Detected at the Reporting Limit       0       100       0       87.4%       70       130         ND - Not Detected at the Reporting Limit       S - Spike Recovery outside accepted recovery limits       B - Analyte detected in the associated Method Blank         J - Analyte detected below quantitation limits       R - RPD outside accepted recovery limits       B - Analyte detected in the associated Method Blank	ethyl tert-Butyl Ether	20.4	4	20	0	102.0%	85	115				
Zene     21.05     1     20     0     105.3%     85     15       Zene     89.3     0     100     0     89.3%     70     130       Denzene     87.42     0     100     0     104.0%     70     130       Since     87.4%     70     130     130       ND - Not Detected at the Reporting Limit     S - Spike Recovery outside accepted recovery limits     B - Analyte detected in the associated Method Blank       J - Analyte detected below quantitation limits     R - RPD outside accepted recovery limits     B - Analyte detected in the associated Method Blank	-Xylene	21.52	-	20	0	107.6%	85	115				
Zene         89.3         0         100         0         89.3%         70         130           benzene         104         0         100         0         104.0%         70         130           benzene         87.42         0         100         0         104.0%         70         130           B7.42         0         100         0         87.4%         70         130           ND-Not Detected at the Reporting Limit         S - Spike Recovery outside accepted recovery limits         B - Analyte detected in the associated Method Blank           J - Analyte detected below quantitation limits         R - RPD outside accepted recovery limits         B - Analyte detected in the associated Method Blank	oluene	21.05	<b>+</b>	20	0	105.3%	85	115				
benzene     104     0     100     0     104.0%     70     130       B7.42     0     100     0     87.4%     70     130       ND - Not Detected at the Reporting Limit     S - Spike Recovery outside accepted recovery limits     B - Analyte detected in the associated Method Blank       J - Analyte detected below quantitation limits     R - RPD outside accepted recovery limits     B - Analyte detected in the associated Method Blank	4-Difluorobenzene	89.3	0	100	0	89.3%	70	130				
B7.42     0     70     130       ND - Not Detected at the Reporting Limit     S - Spike Recovery outside accepted recovery limits     B - Analyte detected in the associated Method Blank       J - Analyte detected below quantitation limits     R - RPD outside accepted recovery limits     B - Analyte detected in the associated Method Blank	Bromochlorobenzene	104	0	100	0	104.0%	70	130				
ND - Not Detected at the Reporting LimitS - Spike Recovery outside accepted recovery limitsB - Analyte detected in the associated Method BlankJ - Analyte detected below quantitation limitsR - RPD outside accepted recovery limits	uorobenzene	87.42	0	100	0	87.4%	70	130				
ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits												
R - RPD outside accepted recovery limits		etected at the Reporting Limit		S - Spił	ke Recovery outsid	le accepted reco	overy limits	B.	- Analyte detected	in the associ	ated Method B	lank
	J - Analyte (	detected below quantitation lim	its	R - RP	D outside accepted	recovery limit.	S					I of 2

Project: 4-1532							Continui	Continuing Calibration Verification Standard	n Verific	ation Star	
Sample ID: CCV1 QC0606/07 B	Batch ID: GC-1_981123	Test Code:	SW8020A	Units: µg/L		Analysis	Analysis Date 11/23/98	98	Prep Date:	ite:	
Client ID:	9811039	Run ID:	GC-1_981123C	U		SeqNo:	9083				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual
Bentene	20.58		20	0	102.9%	85	115				
Ethylbenzene	21.22		20	0	106.1%	85	115				
m p-Xvlene	41.68	2	40	0	104.2%	85	115				
o-Xvlene	21.41	~	20	0	107.1%	85	115				
Toluene	21.01	~	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%	20	130				
Sample ID: CCV2 QC0606/07 B	Batch ID: GC-1 981123	Test Code:	SW8020A	Units: µg/L		Analysis	Analysis Date 11/23/98	98	Prep Date:	te:	
	9811039	Run ID:	GC-1_981123C	U		SeqNo:	9084				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.01	-	20	0	100.0%	85	115				
Ethvlbenzene	20.61	-	20	0	103.1%	85	115				
m.p-Xvlene	40.5	2	40	0	101.2%	85	115				
o-Xvlene	20.94		20	0	104.7%	85	115				
Toluene	20.46	-	20	0	102.3%	85	115				
1,4-Difluorobenzene	89.25	0	100	0	89.2%	20	130				
4-Bromochlorobenzene	105.5	0	100	0	105.5%	70	130				
Fluorobenzene	87.26	0	100	0	87.3%	70	130				

2 of 2

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R - RPD outside accepted recovery limits

J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit

# On Site Technologies, LTD.

1

CLIENT: Work Order: Project: Test No:	981) 4-15	1039	ologies, Limite	d Partnership	QC SUMMARY REPORT SURROGATE RECOVERIES BTEX
Sample ID		14FBZ	4BCBZ	FLBZ	
9811039-01A	1	89.3	105	87.5	
9811039-01AMS	1	88.4	106	87.3	
9811039-01AMSD	)	88.8	106	87.4	
9811055-01A		88. I	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

		0220		OF COSTODY RECORD		
<b>ON SITE</b>		Date: 11/12/7>	1/12/	12		Page / of
TECHNOLOGIES, LTD. (1997) 1557 W. Maple • P. O. Box 2606 • Farmington NM 87499 LAB: (505) 325-5667 • FAX: (505) 325-6256	x 2606 • Farmington M 67 • FAX: (505) 325-625	A 87499 6				
Purchase Order No.: 4-	4-1532		Name Vame	10 LAFEY Iru	11/10	Title
Name Larry Vull		TG	DT S	Company Four fo	we Inc	
ZOO Company Fire - Fore In C	Dept.			Mailing Address	-	
			зы	Ciry, State, ∠ip		
Sampling Location: The Low Charles Co.	Puol II.			l elephone No.		LEIERAX NU. LE CTED
-		<b>,</b>	S			
			iner	la la la la la la la la la la la la la l		
Sampler:		quin	dmuN Gonta	Te st live		
	CAMPLE		) .	/ /A/ /		
SAMPLE IDENTIFICATION	DATE TIME MATRIX	RIX PRES.		),   o/	/ / /	
Comol. 1 271721	11/etsy 1115 H20	Hone	4 5			
and 2	11 11011 11	11	2	1		31
						-
Relinquished by: Con Con Con Con Con Con Con Con Con Con	Date/Time ////ht	1254	Received by:	W. C. V.	Ļ	Date/Time   #   + / - / - /
Relinquished by:	Date/Time		Received by:	:A		Date/Time
Relinquished by:	Date/Time	_	Received by	.yc		Date/Time
Method of Shipment:			Rush	24-48 Hours	10 Working Days	Special Instructions:
	Date					-
(Client Signature <u>Must</u> Accompany Request)						
Distribu	Distribution: White - On Site Ye	Yellow - LAB Pi	Pink - Sampler	rr Goldenrod – Client		

(1) A set of the se



LAB: (505) 325-1556

### ANALYTICAL REPORT

Date: 11-Nov-98

Client: Work Order:	On Site Technol 9810087	ogies, Limited Partne	ership		•	fo: Delusso ID: S-20	Loop Spill
Lab ID:	9810087-01A	Matrix: SOIL		Coll	ection Da	nte: 10/29/98	9:00:00 AM
Project:	4-1532			C	OC Reco	rd: 5588	
Parameter		Result	PQL	Qual U	nits	DF	Date Analyzed
	ORGANICS	SW	/8015				Analyst: <b>HR</b>
T/R Hydrocarbon	s: C10-C28	ND	25	r	ng/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

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1



LAB: (505) 325-1556

### ANALYTICAL REPORT

Date: 11-Nov-98

Client: Work Order:	On Site Technol 9810087	gies, Limited Partnership		Client Sample Info: Client Sample ID:						
Lab ID:	9810087-02A	Matrix: SOIL		С	ollection Da	te: 10/29/98	3 9:10:00 AM			
Project:	<b>Project:</b> 4-1532					COC Record: 5588				
Parameter		Result	PQL	Qual	Units	DF	Date Analyzed			
DIESEL RANGE	ORGANICS	SW	/8015				Analyst: <b>HR</b>			
T/R Hydrocarbon	s: 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

- Technology Blending Industry with the Environment -

1 of 1



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,

Jak

David Cox

P.O. BOX 2606 • FARMINGTON, NM 87499

- Technology Blending Industry with the Environment -



LAB: (505) 325-1556

Date: 11-Nov-98

## On Site Technologies, LTD.

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

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD. CLIENT: On Site Technologie: Work Order: 9810087	hnologie On Site T 9810087	nologies, LTD. On Site Technologies, Limited Partnership 9810087	ship			QC SUMN	Date: 11-Nov-98 QC SUMMARY REPORT Method Blank
Project: Sample ID: MB1 Client ID:	4-1532	Batch ID: GC-2_981110 Tesi 9810087 Run Result	Test Code: SW8015 Run ID: GC-2_98 PQL SPK vs	SW8015 Units: mg/Kg GC-2_981110A SPK value SPK Ref Val	Analysis Date 11/10/98 SeqNo: 8575 %REC LowLimit HighLimit RP	'D Ref Val	Prep Date: 11/5/98 %RPD RPDLimit Qual
T/R Hydrocarbons: C10-C28	C10-C28	Q	32				
Qualifiers:	Nor - UN	ND - Not Detected at the Reporting Limit		S - Spike Recovery outside accepted recovery limits		B - Analyte detected in	<ul> <li>B - Analyte detected in the associated Method Blank</li> </ul>

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Sample [D: 9810085-04ADBatch ID: GC-298110Test Code: SW8015Units: $mg/Kg$ Analysis Date 111096Pre- Date: 111096Clent ID:9810087Run ID:GC-2-98110ASeqNo:8598Analysis Date ValeNite: $mg/Kg$ Nite: $mg/Kg$ </th <th>ID:       Bitch ID:       G.G.2_98110       Test Code:       SWB05       Analysis Date       111098       Prep Date:       111098         i:       <math>9810057</math>       Run ID:       G.C.2_98110A       SeqNo:       8598       SeqNo:       8598       SeqNo:       8598         i:       Result       POL       SPK Ref Value       SPK Ref Value       SeqNo:       8598       SeqNo:       8598         rocarbons:       C10-C28       J1026       25       0       0.0%       0       0       1092       6.3%       75       15</th> <th>ID:       GC2_291110       Test Code:       Swa015       Init:       mg/Kg       Analysis Date       111098         Run ID:       9810087       Run ID:       GC2_981110A       SeqNo:       8598       SeqNo:       8598         Result       PQL       SPK Nalue       SPK Net Value       NREC       LowLimit       HighLimit       RPD Ref Value         rocarbons:       1026       25       0       0       0,0%       0       1092</th> <th>Test Code:       SWB015       Units:       Mg/Kg       Analysis Date       11/10/98       Prep Date:       11/10/98         Run ID:       GC-2_981110A       SeqNo:       8598         8790           PQL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD       RPDLimit         25       0       0       0.00%       0       0       1092       6.3%       15</th>	ID:       Bitch ID:       G.G.2_98110       Test Code:       SWB05       Analysis Date       111098       Prep Date:       111098         i: $9810057$ Run ID:       G.C.2_98110A       SeqNo:       8598       SeqNo:       8598       SeqNo:       8598         i:       Result       POL       SPK Ref Value       SPK Ref Value       SeqNo:       8598       SeqNo:       8598         rocarbons:       C10-C28       J1026       25       0       0.0%       0       0       1092       6.3%       75       15	ID:       GC2_291110       Test Code:       Swa015       Init:       mg/Kg       Analysis Date       111098         Run ID:       9810087       Run ID:       GC2_981110A       SeqNo:       8598       SeqNo:       8598         Result       PQL       SPK Nalue       SPK Net Value       NREC       LowLimit       HighLimit       RPD Ref Value         rocarbons:       1026       25       0       0       0,0%       0       1092	Test Code:       SWB015       Units:       Mg/Kg       Analysis Date       11/10/98       Prep Date:       11/10/98         Run ID:       GC-2_981110A       SeqNo:       8598         8790           PQL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD       RPDLimit         25       0       0       0.00%       0       0       1092       6.3%       15
Result         PQL         SPK value         SPK Ref Val         MRD         MRD         MRD         MRD           nocarbons: C10-C28         1026         25         0         0.0%         0         0         1092         6.3%         15	Result         QL         SPK value         SPK Ref Val         KRef Val         KRP Val         <	Result         D.L         SPK value         SPK ret Val         Merch         HighLimit         RD Ret Val         %RD           rocarbons: C10-C28         1026         25         0         0.0%         0         0         1092         6.3%	SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD         RPDLimit           0         0         0.0%         0         0         6.3%         15
1026         25         0         0.0%         0         1092           6.3%	1026         25         0         0.0%         0         0         0           85.3         0         0.0%         0         0         0         0         0         3%	1026         25         0         0.0%         0         1092         6.3%	0 0 0.0% 0 0 1092 6.3%

ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits

Qualifiers:

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

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On Site Technologies, LTD. CLIENT: On Site Technologie: Work Order: 9810087	chnologie On Site T 9810087	nologies, LTD. On Site Technologies, Limited Partnership 9810087	rtnership						Date: 11-NOV-YS QC SUMMARY REPORT Sample Matrix Spike	Dat IMARY Sample	Date: 11-NOV-98 MARY REPORT Sample Matrix Spike	S d d
Project: 4-10-20 Sample ID: 9810090-01AMS Client ID:	090-01AMS	Batch ID: GC-2_981110 9810087 Result	Test Code: Run ID: PQL	SW8015 GC-2_981110A SPK value 5	Units: mg/Kg A SPK Ref Val	%REC	Analysis E SeqNo: LowLimit	Analysis Date 11/10/98 SeqNo: 8599 wuLimit HighLimit RP	<b>/98</b> RPD Ref Val	Prep Da %RPD	Prep Date: 11/10/98 %RPD RPDLimit	Qual
T/R Hydrocarbons: C10-C28	s: C10-C28	465.3	25	502	0	92.7%	70	130				
Qualifiers:	ND - Not E	ND - Not Detected at the Reporting Limit		S - Spike F	S - Spike Recovery outside accepted recovery limits	e accepted rec	overy limits		B - Analyte detected in the associated Method Blank	id in the assoc	ciated Method	q [

CLIENT: On Site Technologic	On Site Tec	On Site Technologies, Limited Partnership	tnership									
Work Order: Project:	9810087 4-1532								Laboratory Control Spike - generic	Control Sp	nter de	ne
Sample ID: LCS Soil Client ID:		Batch ID: GC-2_981110 9810087	Test Code: SW8015 Run ID: GC-2_98	SW8015 GC-2_981110A	Units: mg/Kg		Analysis SeqNo:	Analysis Date 11/10/98 SeqNo: 8577	86/0	Prep Date: 11/5/98	: 11/5/98	1
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	LowLimit HighLimit RPD Ref Val	%RPD F	RPDLimit	Qual
UN TYGTOCATOONS: CIU-CZA		0 4 0	Q	<u>n</u> 00	Þ	8 6 7 7 7	2					
Qualifiers:	ND - Not Detect	ND - Not Detected at the Reporting Limit		S - Spi	S - Spike Recovery outside accepted recovery limits	accepted reco	very limits		B - Analyte detected in the associated Method Blank	n the associated	d Method Bl	laı

10 10	Batch ID: GC-2_981110 9810087 Result 434 9810087 Patch ID: GC-2_981110 9810087 Result	jej					0	C SUN	IMAR	QC SUMMARY REPORT	)RT
Sample ID: CCV1 DRO_98110 Batch ID: G Client ID: CU1 DRO_98110 Batch ID: G Analyte T/R Hydrocarbons: C10-C28 Sample ID: CCV2 DRO_98110 Batch ID: G Client ID: Analyte							Continuing Calibration Verification Standard	alibratior	ı Verific	ation Stat	ıdard
9			SW8015 GC 2 001110A	Units: mg/Kg		Analysis Sector	Analysis Date 11/10/98 Connor 8576		Prep Date:	ate:	
9	1 1	PQL	SPK value	SPK Ref Val	%REC	LowLimit	High	ef Val	%RPD	RPDLimit	Qual
0: CCV2 DRO_98110	1	25	501.9	0	86.5%	85	115				1
	Result	Test Code: SW8015 Run ID: GC-2 98	SW8015 GC-2 981110A	Units: mg/Kg A		Analysis SegNo:	Analysis Date 11/10/98 SeqNo: 8600		Prep Date:	ate:	
		Ţ	_ SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	ef 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: G	Batch ID: GC-2_981110	Test Code:	SW8015	Units: mg/Kg		Analysis	Analysis Date 11/10/98		Prep Date:	ate:	
Client ID: 98	9810087	Run ID:	GC-2_981110A	4		SeqNo:	8601				
Analyte	Result	Par	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	ef 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: G	Batch ID: GC-2_981110	Test Code: SW8015	SW8015	Units: mg/Kg		Analysis	Analysis Date 11/10/98		Prep Da	Prep Date: 11/10/98	
Client ID: 98	9810087	Run ID: 0	GC-2_981110A	Æ		SeqNo:	8602				
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	LowLimit HighLimit RPD Ref Val	ef Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	451.4	25	502	0	89.9%	85	115				

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R - RPD outside accepted recovery limits

J - Analyte detected below quantitation limits

	CHAIN OF CUSTODY RECORD		COND		
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Date:	Date: 10/29/14	4<		Pageof
	657 W. Maple • P. O. Box 2606 • Farmington NM 87499 LAB: (505) 325-5667 • FAX: (505) 325-6256				
Purchase Order No.: Job No.	x1-1532	Name O	levuy Th	~~ (I.	Title
Name FULL - FULL INC.		Company S TC	N Foren-	JULY IN	
	Dept.		Mailing Address		
		Sar	City, State, Zip		
City, State, Zip			Telephone No.	Tel	Telefax No.
Sampling Location: Deliver Location:	.11.02		AN	ANALYSIS REQUESTED	STED
	,	uers			
Sampler:		Numbé Contai			
SAMPLE IDENTIFICATION	SAMPLE MATRIX PRES.	$\leq$			LABID
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				a a construction of the state o	
Relinquished by:	Date/Time 10/29 19 1/1/2	// Heceived 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:
A thread by:	Date				
Client Signature Must Accompany Request)					
	Distribution: White - On Site Yellow - LAB P	Pink – Sampler	Goldenrod – Client		

OFF: (505) 325-5667

o-Xylene



LAB: (505) 325-1556

### ANALYTICAL REPORT

Date: 20-Nov-98

Client: Work Order:	On Site Technol 9810084	ogies, Limited Partn	ership		•		Delusso Loop Rd Spill ase" Stockpile 6pt. Comp
Lab ID:	9810084-01A	Matrix: SOIL		С	ollection Da	te: 10/27/98	11:00:00 PM
Project:	4-1532				COC Reco	rd: 5586	
Parameter		Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE	ORGANICS	SV	V8015				Analyst: HR
T/R Hydrocarbon	s: C10-C28	16000	250		mg/Kg	10	11/10/98
GASOLINE RAN	GE ORGANICS	SV	V8015				Analyst: DC
T/R Hydrocarbon	s: C6-C10	440	45		mg/Kg	250	10/30/98
BTEX		SI	V8020A				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

250

µg/Kg

9100

Qualifiers:

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

250

10/29/98

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

R - RPD outside accepted recovery limits

E - Value above quantitation range

B - Analyte detected in the associated Method Blank

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1



The Quality Solution

· · · · · ·	MSAI Sample: 88859
On Site Technologies, Ltd.	MSAI Group: 24652
612 E Murray Drive	Date Reported: 11/11/98
Farmington, NM 87401	Discard Date: 12/11/98
	Date Submitted: 10/29/98
Attn: Mr. David Cox	Date Sampled: 10/27/98
Project: Solid Analysis	Collected by:
	Purchase Order:
Sample ID: 9810084-01B	Project No.: 9810084

Matrix: Soil

S.R.539, Delusso Loop Road Spill "Worst Case" Stockpile 6pt. Comp.

Analylical Report

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Test	Analysis	Results as Received	Units	Dilution Factor	Qua	imit of antitation
02591	Mercury by CVAA, TCLP, 7470 Method: SW-846 7470	ND	 mg/l	1		0.0005
0392N	Mercury Prep CVAA, TCLP, 7470 Method: SW-846 7470	Batch. w269		1		
03931	Flame/hrICP Prep, TCLP, 3010A Method: SW-846 3010A	Batch. w738		1		
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 Method: SW-846 9045C	7.88	Std. Units	1		0.05
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 Extractíon, hrICP, Metals Method: SW-846 1311	100	% solids	1		0.001

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



# RECEIVED NIV 1 9 1998



#### The Quality Folder

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,

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Rolf E. Larsen Project Manager

التعاملة المرافق المرافق المرافق المرافق المرافق المرافق المرافق المرافق المرافق المرافق المرافق المرافق المرا التي يوم المرافق التي تمام المرافق المرافق المرافق المرافق المرافق المرافق المرافق المرافق المرافق المرافق المر المرافق المرافق المرافق المرافق المرافق المرافق المرافق المرافق المرافق المرافق المرافق المرافق المرافق المرافق



Mountain Sta	tes Analytical, Inc.			Page	2
	The Quality Solution				
n Site Technologies, Ltd.		MSAI Sa	mple:	88859	
		MSAI Gr	oup:	24652	
Sample ID: 9810084-01B					
	Results		Dilı	ution	Limit of
lest Analysis	Results as Received	Units		ution ctor	Limit of Quantitation
	as Received				Quantitation
·		Units  % Solids			Quantitation
 D947M TCLP Extraction, Mercury, 1311 Method: SW-846 1311	as Received				Quantitation
D947M TCLP Extraction, Mercury, 1311 Method: SW-846 1311	as Received				Quantitation
1121 Reactivity, (Cyanide & Sulfide)sw	as Received				

) 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:

Elinge

Analytical Report

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



Work Order: 9810084 Project: 4-1532 Sample ID: MB1 Client ID:	On Site Technologies, Limited Partnership	rtnership			<b>OC SUMMARY REPORT</b>	ARY REPO
Sample ID: <b>MB1</b> Client ID:	)84 2				J	Method Blank
Client ID:	Batch ID: GC-2_981110	Test Code:	SW8015 Units: mg/Kg	Analysis Date 11/10/98		Prep Date: 11/5/98
	9810084	Run ID:	GC-2_981110A	SeqNo: 8575		
Analyte	Result	Pal	SPK value SPK Ref Val	%REC LowLimit HighLimit RF	RPD Ref Val %RI	%RPD RPDLimit
Qualifiers: ND - Not J - Analyi	ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits	its	S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits		B - Analyte detected in the associated Method Blank	ssociated Method Bla

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OFF: (505) 325-5667



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

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 20-Nov-98

CLIENT:	On Site Technologies, Limited Partnership	
_	<b>U</b>	
Project:	4-1532	CA
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

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

	T . A		_	
	<b>ORT</b> plicate	8	Qual	
	<b>ARY REPORT</b> Sample Duplicate	Prep Date: 11/10/98	RPDLimit	15
	<b>AMAR</b> Sai	Prep Da	%RPD	6.3%
	QC SUMMARY REPORT Sample Duplicate	86/	HighLimit RPD Ref Val	1092
		Analysis Date 11/10/98 SeqNo: 8598		0
		Analysis SeqNo:	LowLimit	0
			%REC	0.0%
		Units: mg/Kg A	SPK Ref Val	0
		SW8015 GC-2_981110A	SPK value	ο
	rtnership	Test Code: 4 Run ID:	PQL	25
	On Site Technologies, Limited Partnership 9810084 4-1532	Batch ID: GC-2_981110 Test Code: SW8015 9810084 Run ID: GC-2_98	Result	1026
יאופטוטוווי	On Site Te 9810084 4-1532	85-04AD		: C10-C28
OIL DIN I COMPANY LID.	CLIENT: Work Order: Project:	Sample ID: 9810085-04AD Client ID:	Analyte	T/R Hydrocarbons: C10-C28

J - Analyte detected below quantitation limits

ND - Not Detected at the Reporting Limit

Qualifiers:

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits

I of I B - Analyte detected in the associated Method Blank

On Site Lecinologies, LTD. CLIENT: On Site Technologies	11010g1cs, L 1 L). On Site Technologies I imited Partnerchin	thership									86-
ler:	turinorogius, minicu i ai	dimension						QC SUMMARY REPORT Sample Matrix Spike	<b>MMAR</b> Sampl	MARY REPORT Sample Matrix Spike	Spil Spil
Sample ID: 9810090-01AMS Client ID:	Batch ID: GC-2_981110 Test Code: 9810084 Run ID:	Test Code: Run ID:	SW8015 GC-2 981110A	Units: mg/Kg		Analysis SeaNo:	Analysis Date 11/10/98 SeoNo: 8599	86/0	Prep Da	Prep Date: 11/10/98	
Analyte	Ħ	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	LowLimit HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
LIK Hydrocarbons: C10-C28	4 0 0 0	S.	N 06	Þ	97. 97.	2	00 1				
Qualifiers: ND - Not De I - Analyte di	ND - Not Detected at the Reporting Limit		S - Spi	S - Spike Recovery outside accepted recovery limits	accepted reco	very limits		B - Analyte detected in the associated Method Blank	in the associ	ated Method B	lan

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Project:         4-133         Laboratory control pike - genetic           Sample ID:         Each         Bath ID:         Cc2-381110         Text Code:         Waise Date 111098         Pap Date 111598           Sample ID:         Bath ID:         Cc2-381110         Text Code:         Waise Date 111098         Pap Date 111598           Clear(ID:         Bath ID:         Cc2-381110         Text Code:         Waise         Bath ID:         Code:         Bath ID:         Code:         Bath ID:         Code:         Bath ID:         Code:         Bath ID:	CLIENT: Work Order:	On Site To 9810084	CLIENT: On Site Technologies, Limited Partnership Work Order: 9810084	tnership						QC SUI	QC SUMMARY REPORT	LEPOF	RY REPORT
Method         Sold         Sold         Method         Method <th>Project: Sample ID: LCS S Client ID:</th> <th>4-1532 oil</th> <th></th> <th>Test Code: Run ID:</th> <th>SW8015 GC-2 981110</th> <th></th> <th></th> <th>Analysis SedNo:</th> <th>Date 11/10 8577</th> <th>(1)98</th> <th>Prep Date: 11</th> <th>1/5/98</th> <th></th>	Project: Sample ID: LCS S Client ID:	4-1532 oil		Test Code: Run ID:	SW8015 GC-2 981110			Analysis SedNo:	Date 11/10 8577	(1)98	Prep Date: 11	1/5/98	
514.8         25         501.9         0         102.6%         70	Analyte		ļt.	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val			Qual
	/R Hydrocarbons	C10-C28	5 4. 8.	2 N	9. 9.	0	102.6%	2	130				

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R - RPD outside accepted recovery limits

ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits

CLIENT: On Site T. Work Order: 9810084 Project: 4-1532	On Site Technologies, Limited Partnership 9810084 4-1532	ruersmp					QC SUMMARY REPORT Continuing Calibration Verification Standard	QC SUMMARY REPORT Calibration Verification Standard	EPO 1 Stand	RT
Sample ID: CCV1 DR0_98110 Client ID:	Batch ID: GC-2_981110 Test Code: 9810084 Run ID:		SW8015 GC-2_981110A	Units: mg/Kg A		Analysis SeqNo:	Analysis Date 11/10/98 SeqNo: 8576	Prep Date:		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	434	25	501.9	0	86.5%	85	115			
Sample ID: CCV2 DR0_98110 Client ID:	Batch ID: GC-2_981110 9810084	Test Code: SW8015 Run ID: GC-2_98	SW8015 GC-2_981110A	Units: mg/Kg		Analysis SeqNo:	Analysis Date 11/10/98 SeqNo: 8600	Prep Date:		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Vat	%RPD 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	SW8015	Units: mg/Kg		Analysis	Analysis Date 11/10/98	Prep Date:		
Client ID:	9810084	Run ID:	GC-2_981110A	٩		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 DR0_98110	Batch ID: GC-2_981110 Test Code: SW8015	Test Code:	SW8015	Units: mg/Kg		Analysis	Analysis Date 11/10/98	Prep Date: 11/10/98	10/98	
Client ID:	9810084	Run ID:	GC-2_981110A	4		SeqNo:	8602			
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit		Qual
T/R Hydrocarbons: C10-C28	451.4	25	502	O	89.9%	85	115			

ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits

Qualifiers:

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

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CLIENT:	CLIENT: On Site Technologie:	On Site Technologies, Limited Partnership	artnership						TOC STIMM A DV DEDOT	ava
Work Order: Project:	9810084 4-1532								Method Blank	d Bla
Sample ID: MB1	Ba	Batch ID: GC-1_981030	Test Code:	SW8015	Units: mg/Kg	An	Analysis Date 10/30/98	3/30/98	Prep Date:	
Client ID:		9810084	Run ID:	GC-1_981030A	_	Se	SeqNo: 82	8288		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC LowLimit		HighLimit RPD Ref Val	%RPD RPDLimit	Ħ
Qualifiers:	ND - Not Detected J - Analyte detected	ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits	its	S - Spik R - RPD	<ul> <li>S - Spike Recovery outside accepted recovery limits</li> <li>R - RPD outside accepted recovery limits</li> </ul>	ccepted recovery li overy limits	mits	B - Analyte detected	B - Analyte detected in the associated Method Blank	d Bla

v-98	<b>ORT</b> Spike	Qual			Qual	
<b>Date:</b> 20-Nov-98	MARY REPORT Sample Matrix Spike	ate: RPDLimit		ite:	RPDLimit	4
Da		Prep Date: %RPD RI		Prep Date:	%RPD	2.0%
	QC SUMMARY REPORT Sample Matrix Spike	Date 10/30/98 8292 HighLimit RPD Ref Val		86/	RPD Ref Val	1.714
		Analysis Date 10/30/98 SeqNo: 8292 wLimit HighLimit RP	123	Analysis Date 10/30/98 SeqNo: 8293	HighLimit	123
		Analysis SeqNo: LowLimit	52	Analysis SeqNo:	LowLimit	23
		%REC	95.2%		%REC	93.3%
		Units: mg/Kg A SPK Ref Val	0	Units: mg/Kg	SPK Ref Val	O
		SW8015 GC-1_981030A SPK value	1.801	SW8015 GC-1_981030A	SPK value	1.801
	rtnership	Test Code: Run ID: PQL	0.18	1	PQL	0.18
s, LTD.	On Site Technologies, Limited Partnership 9810084 4-1532	Batch ID: GC-1_981030 9810084 Result	1.714	Batch ID: GC-1_981030 Test Code: 9810084 Run ID:	Result	
hnologie	On Site Te 9810084 4-1532	30-01AMS	C6-C10	80-01AMSD		C6-C10
On Site Technologies, LTD.	CLIENT: Work Order: Project:	Sample ID: 9810080-01AMS Client ID: Analyte	T/R Hydrocarbons: C6-C10	Sample ID: 9810080-01AMSD Client ID:	Analyte	T/R Hydrocarbons: C6-C10

ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits

Qualifiers:

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

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ID: LCS Soil	On Site Technologies, Limited Partnership 9810084 4-1532	ship				QC SU Laborator	QC SUMMARY REPORT Laboratory Control Spike - generic
Analyte	Batch ID: <b>GC-1_981030</b> Test Coc 9810084 Run ID: Result PQI	Test Code: SW8015 Run ID: GC-1_981030A PQL SPK value \$	Units: <b>mg/Kg</b> 80A s SPK Ref Val	%REC L	Analysis D SeqNo: LowLimit H	Analysis Date 10/30/98 SeqNo: 8290 LowLimit HighLimit RPD Ref Val	Prep Date: %RPD RPDLimit Qual
T/R Hydrocarbons: C6-C10	1.733	0.18		96.2%	23	5	
Qualifiers: ND - Not Detected at the Reporting Limit	ie Reporting Limit	S - Sp	S - Spike Recovery outside accepted recovery limits	scepted recove	ery limits	B - Analyte detect	B - Analyte detected in the associated Method Blank

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Dr. CCV1 QC0613       Batch ID: GC-1_981030         D: CCV1 QC0613       Batch ID: GC-1_981030         D: CCV1 QC0613       Batch ID: GC-1_981030         Ocarbons: C6-C10       1.89         Oluene       .0801         D: CCV2 QC0613       Batch ID: GC-1_981030         D: CCV2 QC0613       Batch ID: GC-1_981030         Ocarbons: C6-C10       1.89         0: CCV2 QC0613       Batch ID: GC-1_981030         0: CCV3 QC0613       Batch ID: GC-1_981030         0: CCV3 QC0613       Batch ID: GC-1_981030         0: CCV3 QC0613       Batch ID: GC-1_981030	<ul> <li>Test Code: SW8015</li> <li>Run ID: GC-1_98</li> <li>PQL SPK vs</li> </ul>							
Batch ID: GC-1_981030 9810084 Result 1.89 0.0801 Batch ID: GC-1_981030 9810084 Result 1.941 0.0811 Batch ID: GC-1_981030						QC SUMMARY REPORT Continuing Calibration Verification Standard	QC SUMMARY REPORT Calibration Verification Standard	<b>JRT</b> Idard
9810084 9810084 Result 1.89 .0801 Batch ID: GC-1_981030 9810084 Result 1.941 1.941 0.0811		SW8015	Llnits: ma/Ka		Analvsis	Analvsis Date 10/30/98	Prep Date:	
Result 1.89 .0801 Batch ID: GC-1_981030 9810084 Result 1.941 1.941 .0811 Batch ID: GC-1_981030	PQL	GC-1_981030A			SeqNo:	8289		
1.89 .0801 Batch ID: <b>GC-1_981030</b> <b>9810084</b> Result 1.941 .0811 Batch ID: <b>GC-1_981030</b>		SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Batch ID: GC-1_981030 9810084 Result 1.941 .0811 Batch ID: GC-1_981030	0.18 0	1.801 0.08	00	104.9% 100.1%	85 70	115 130		i i
9810084 Result 1.941 .0811 Batch ID: GC-1_981030	Test Code: SW8015	SW8015	Units: mg/Kg		Analysis	Date 10/30/98	Prep Date:	
Result 1.941 .0811 Batch ID: GC-1_981030	Run iD:	GC-1_981030A	Æ		SeqNo:	8304		
1.941 .0811 Batch ID: GC-1_981030	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
D: CCV3 QC0613 Batch ID: GC-1_981030	0.18	1.801 0.08	00	107.8% 101.4%	85 70	115 130		
	Test Code: SW8015	SW8015	Units: mg/Kg		Analysis	Analysis Date 10/30/98	Prep Date:	
Client ID: 9810084	Run ID:	GC-1_981030A	A		SeqNo:	8305		
Analyte	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
T/R Hydrocarbons: C6-C10 1.944 Trifluorotoluene .0882	0.18 0	1.801 0.08	00	107.9% 110.3%	85 70	115 130		
Sample ID: CCV4 QC0613 Batch ID: GC-1_981030	Test Code: SW8015	SW8015	Units: mg/Kg		Anafysis	Analysis Date 10/30/98	Prep Date:	
Client ID: 9810084	Run ID:	GC-1_981030A	-		SeqNo:	8306		
Analyte	Pal	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	0	0.08	0	113.1%	70	130		
Qualifiers: ND - Not Detected at the Reporting Limit		S - Spil	<ul> <li>S - Spike Recovery outside accepted recovery limits</li> <li>D - D D outside accepted recovery limits</li> </ul>	accepted reco	overy limits	B - Analyte detecte	B - Analyte detected in the associated Method Blank	lank

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IP: CCV5 QC0613         Batch ID: GC-1_981030         Test Code: SM015         Units: mg/Kg         Analysis Date         Prep Date:           r1D:         910064         Run ID:         GC-1_9810304         SeqNo:         810         Run ID:         Value         SeqNo:         810         Nath         Nath <th>D: CCV5 GC0613         Barth ID: GC-1, 96100         Test Code: SW815         Units: mg/Kg         Analysis Date 10.3008         Perp Date:           c         910084         R.m ID: GC-1, 96103         GC-1, 96103         SeqAu:         510         SeqAu:         510           r         Result         P.O.         Sr Malysis Date         N/RC         Low Limit         HghLimit         RPD Ref Val         %PD         RPD Limit           r         Result         P.O.         Sr Malysis         Date         0.00         N</th> <th>Inits:         mg/Kg         Analysis         Date         TopMail           1030A         SeqNo:         8310         Prep Date:           1030A         %RE         LowLimit         HighLimit         RPD Ref Val         %RPD         RPDLimit           101         0         108.5%         85         115         %RPD         RPDLimit           101         0         108.5%         70         130         130         130</th> <th>Work Order: Project:</th> <th>9810084 9810084 4-1532</th> <th>On Site Technologies, Limited Partnership 9810084 4-1532</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>)</th> <th>on Verilic</th> <th>Continuing Calibration Verification Standard</th> <th>QC SUMMARY REPORT Calibration Verification Standard</th>	D: CCV5 GC0613         Barth ID: GC-1, 96100         Test Code: SW815         Units: mg/Kg         Analysis Date 10.3008         Perp Date:           c         910084         R.m ID: GC-1, 96103         GC-1, 96103         SeqAu:         510         SeqAu:         510           r         Result         P.O.         Sr Malysis Date         N/RC         Low Limit         HghLimit         RPD Ref Val         %PD         RPD Limit           r         Result         P.O.         Sr Malysis         Date         0.00         N	Inits:         mg/Kg         Analysis         Date         TopMail           1030A         SeqNo:         8310         Prep Date:           1030A         %RE         LowLimit         HighLimit         RPD Ref Val         %RPD         RPDLimit           101         0         108.5%         85         115         %RPD         RPDLimit           101         0         108.5%         70         130         130         130	Work Order: Project:	9810084 9810084 4-1532	On Site Technologies, Limited Partnership 9810084 4-1532							)	on Verilic	Continuing Calibration Verification Standard	QC SUMMARY REPORT Calibration Verification Standard
under       under <t< th=""><th>Billione         NurlU:         Curling in polarity         Sappo.         Sappo.         Suppo.         Suppo.</th><th>Image         Image         <th< th=""><th>nple ID: CCVE</th><th>QC0613</th><th>Batch ID: GC-1_981030</th><th>Test Code:</th><th>SW8015</th><th></th><th></th><th>Analysis</th><th>Date 10/3</th><th>86/0</th><th>Prep Da</th><th>ite:</th><th></th></th<></th></t<>	Billione         NurlU:         Curling in polarity         Sappo.         Sappo.         Suppo.         Suppo.	Image         Image <th< th=""><th>nple ID: CCVE</th><th>QC0613</th><th>Batch ID: GC-1_981030</th><th>Test Code:</th><th>SW8015</th><th></th><th></th><th>Analysis</th><th>Date 10/3</th><th>86/0</th><th>Prep Da</th><th>ite:</th><th></th></th<>	nple ID: CCVE	QC0613	Batch ID: GC-1_981030	Test Code:	SW8015			Analysis	Date 10/3	86/0	Prep Da	ite:	
ns: C6-C10 1.954 0.18 1.801 0 108.5% 85 .0886 0 0.008 0 110.8% 70	ns: c6-C10 1.954 0.18 1.801 0 108.5% 85 0.008 0 0.008 0 110.8% 70	ns. c6-C10     1.954     0.18     1.801     0     108.5%     85       0     0.088     0     0.088     0     110.3%     70	it ID: yte		9810084 Result	_	GC-1_981030 SPK value	<b>∖A</b> SPK Ref Val		seqno: LowLimit	8310 HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
			Hydrocarbons	c6-C10	1.954	0.18	1.801	00	108.5% 110.8%	85 70	115 130				

ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits

Qualifiers:

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

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On Site Tec	On Site Technologies, LTD.							na	Date: 20-Nov-98	20
CLIENT: Work Order: Project:	On Site Technologies, Limited Partnership 9810084 4-1532	artnership					QC SUI	QC SUMMARY REPORT Method Blank	<b>Y REPORT</b> Method Blank	<b>IRT</b> flank
Sample ID: MB1 Client ID:	Batch ID: GC-1_981028 9810084	Test Code: Run ID:	SW8020A GC-1_981028A	Units: µg/Kg		Analysis Da SeqNo:	Analysis Date <b>10/28/98</b> SeqNo: <b>8187</b>	Prep Date:	ite:	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit Hi	LowLimit HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Benzene Ethylbenzene m.p-Xylene o-Xylene Toluene	ND ND 5945 ND	N - N								7
Sample ID: <b>MB1</b> Client ID:	Batch ID: GC-1_981029 9810084	Test Code: Run ID:	SW8020A GC-1_981029A	Units: µg/Kg	- 	Analysis Da SeqNo:	Analysis Date 10/29/98 SeqNo: 8231	Prep Date:	ite:	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit Hig	HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Benzene Ethylbenzene m.p-Xylene o-Xylene Toluene	UN UN UN 15: 15:	N - N								<del>ر</del>
Qualifiers:	ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits	its	S - Spik R - RPC	S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits	accepted reco ecovery limits	very limits	<ul> <li>B - Analyte detected in the associated Method Blank</li> </ul>	d in the associ	ated Method B	lank 1 of 1
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On Site Technologies, LTD.	ies, LTD.										v-ya
	On Site Technologies, Limited Partnership	ırtnership						QC SU	MMAR	QC SUMMARY REPORT	ORT
Work Urger:         9910034           Project:         4-1532	+								Samp	Sample Matrix Spike	Spike
Sample ID: 9810072-01AMS	Batch ID: GC-1_981028	Test Code:	SW8020A	Units: µg/Kg		Analysi	Analysis Date 10/28/98	8/98	Prep Date:	ate:	
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	-	60	0	100.9%	12	116				
Ethylbenzene	59.86	-	60	0.5984	98.8%	68	120				
m,p-Xylene	120.9	7	120	3.002	98.3%	60	121				
o-Xylene Toluene	59.58 62.02	- v	60	1.486 1.835	96.8% 100.3%	69 67	124 128				
			3		2000	5					
Sample ID: 9810072-01AMSD	Batch ID: GC-1_981028 Test Code:	Test Code:	SW8020A	Units: µg/Kg		Analysis	Analysis Date 10/28/98	8/8	Prep Date:	ate:	
Client ID:	9810084	Run ID:	GC-1_981028A	۷		SeqNo:	8189				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	59.74	-	60	0	<b>99.6%</b>	71	116	60.53	1.3%	15	
Ethylbenzene	58.79	-	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	-	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	Analysis Date 10/29/98	9/98	Prep Date:	ate:	
Client ID:	9810084	Run ID:	GC-1_981029A	٩		SeqNo:	8232				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	54.94	~	60	0	91.6%	71	116				
Ethylbenzene	52.69	-	60	0	87.8%	68	120				
m,p-Xylene	99.51	2	120	0.9785	82.1%	60	121				
o-Xylene	60.45	-	60	0.507	6.9%	69	124				
Toluene	55.82	2	60	0	93.0%	62	128				
Qualifiers: ND - Not De	ND - Not Detected at the Reporting Limit		S - Spi	S - Spike Recovery outside accepted recovery limits	accepted rec	overy limits		B - Analyte detected in the associated Method Blank	d in the assoc	iated Method	Blank
J - Analyte (	J - Analyte detected below quantitation limits	its	R - RP	R - RPD outside accepted recovery limits	ecovery limit	ts					I of 2

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 CLIENT:
 On Site Technologies, Limited Partnership

 Work Order:
 9810084

QC SUMMARY REPORT

Sample Matrix Spike Duplicate

Sample ID: 9810080-01AMSD Batch ID: GC-1_981029 Test Code: \$	Batch ID: GC-1_981029	Test Code:	SW8020A	SW8020A Units: µg/Kg		Analysis	Analysis Date 10/29/98	6	Prep Date:	te:	
Client ID:	9810084	Run ID:	GC-1_981029A	Ā		SeqNo:	8233				
Analyte	Result	PQL	SPK value	SPK value SPK Ref Val	%REC	LowLimit	%REC LowLimit HighLimit RPD Ref Val	PD Ref Val	%RPD	RPDLimit Qual	Qual
Renzene	52.9	-	60	0	88.2%	71	116	54.94	3.8%	15	
Ethvlbenzene	50.19	-	60	0	83.7%	68	120	52.69	4.9%	15	
m p-Xvlene	67.73	2	120	0.9785	80.6%	60	121	99.51	1.8%	15	
o-Xvlene	58.84	•	60	0.507	97.2%	69	124	60.45	2.7%	15	
Toluene	53.75	7	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.	chnologi	ies, LTD.									<b>Date:</b> 20-100-20	
CLIENT: Work Order: Project:	On Site 7 9810084 4-1532	On Site Technologies, Limited Partnership 9810084 4-1532	rtnership						QC SUMMARY REPORT Laboratory Control Spike - generic	QC SUMMARY REPORT aboratory Control Spike - generic	Y REP Spike - g	<b>ORT</b> eneric
Sample ID: LCS SOIL	SOIL	Batch ID: GC-1_981028	Test Code:	Test Code: SW8020A	Units: µg/Kg		Analysis	Analysis Date 10/28/98	28/98	Prep Date:	ate:	
Client ID:		9810084	Run ID:	GC-1_981028A	A		SegNo:	8186				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit		HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		61.22	-	60	0	102.0%	71	116				
Ethylbenzene		60.9	-	60	0	101.5%	68	120				
m,p-Xylene		121.6	2	120	0	101.4%	60	121				
o-Xylene		60.77	-	60	0.5945	100.3%	69	124				
Toluene		61.38	2	60	0	102.3%	62	128				
Sample ID: LCS SOIL	solL	Batch ID: GC-1_981029	Test Code:	Test Code: SW8020A	Units: µg/Kg		Analysis Date	s Date 10/2	10/29/98	Prep Date:	ate:	
Client ID:		9810084	Run ID:	GC-1_981029A	A		SeqNo:	8230	_			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		60.46	-	60	0	100.8%	71	116				
Ethylbenzene		60.52	-	60	0	100.9%	68	120				
m,p-Xylene		121	2	120	0	100.8%	60	121				
o-Xylene		60.49	~	60	0	100.8%	69	124				
Toluene		60.65	3	60	0.7155	<b>6.</b> 66	62	128				
On a liftere:	ND - Not De	ND - Not Detected at the Renorting I imit		S - Smik	S - Snike Recovery outside accented recovery limits	a oroented rec	meru limits		R - Analvre detected in the associated Method Rlank	t in the accord	isted Method	alank
Qualifiers	J - Analyte d	ND - Not Detected at the Reporting Lithit J - Analyte detected below quantitation lithits	ts	nde - e RPI	3 - Spike recovery outside accepted recovery limits R - RPD outside accepted recovery limits	e accepted too	טענוץ וווווע S		D - Allalyu uvuvu	ישטפנים זווו ווו ח	ומוכט זעניווטט	I of I

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CLIENT: On Site Technologie	On Site Technologies Limited Partnership	rtnershin							E
ler:	)84 2						Continuing Calibration Verification Standard	Calibration Verification Standard	<b>UKI</b> indard
Sample ID: CCV1 QC0606/07	07 Batch ID: GC-1 981028	Test Code:	Test Code: SW8020A	Units: µg/Kg		Analysis	Analysis Date 10/28/98	Prep Date:	
Client ID:		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	-	60	0	95.7%	85	115		
Ethylbenzene	57.77	•	09	0	96.3%	85	115		
m,p-Xylene	115.8	2	120	0	96.5%	85	115		
o-Xylene	57.69	-	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	66.7%	20	130		
Sample ID: CCV2 QC0606/07	07 Batch ID: GC-1_981028	Test Code:	Test Code: SW8020A	Units: µg/Kg		Analysis	Analysis Date 10/28/98	Prep Date:	
Client ID:	9810084	Run ID:	GC-1_981028A	3A		SeqNo:	8184		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Benzene	61.8	-	60	0	103.0%	85	115		
Ethylbenzene	60.24	-	60	0	100.4%	85	115		
m,p-Xylene	120	2	120	0	100.0%	85	115		
o-Xylene	60.3	-	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 J - Analyt	ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits	its	S - Sp: R - RP	<ul> <li>S - Spike Recovery outside accepted recovery limits</li> <li>R - RPD outside accepted recovery limits</li> </ul>	e accepted rec recovery limit	overy limits ts	B - Analyte detecte	B - Analyte detected in the associated Method Blank	Blank I of 3

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Work Order:         9810084           Project:         4-1532	On Site Technologies, Limited Partnership 9810084 4-1532	dimension					QC SUMMARY REPORT Continuing Calibration Verification Standard	QC SUMMARY REPORT Calibration Verification Standard	<b>UKT</b> undard
Sample ID: CCV3 QC0606/07	Batch ID: GC-1_981028	Test Code:	SW8020A	Units: µg/Kg		Analysis	Analysis Date 10/28/98	Prep Date:	
Client ID:	9810084	Run ID:	GC-1_981028A	A		SeqNo:	8185		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Benzene	59.68	-	60	0	99.5%	85	115		
Ethylbenzene	57.8	-	60	0	96.3%	85	115		
m,p-Xylene	114.7	8	120	0	92.6%	85	115		
o-Xylene	61.63	-	60	0	102.7%	85	115		
Toluene	59.42	7	60	0	%0.66	85	115		
1,4-Difluorobenzene	81.1	0	80	0	101.4%	02	130		
4-Bromochlorobenzene	91.36	0	80	0	114.2%	50	150		
Fluorobenzene	80.65	0	80	0	100.8%	20	130		
Sample ID: CCV1 QC0606/07	Batch ID: GC-1_981029	Test Code:	SW8020A	Units: µg/Kg		Analysis	Analysis Date 10/29/98	Prep Date:	
Client ID:	9810084	Run ID:	GC-1_981029A	A		SeqNo:	8228		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Benzene	61.49	~	60	o	102.5%	85	115		
Ethylbenzene	61.47	Ţ	60	0	102.5%	85	115		
m,p-Xylene	123.3	2	120	0	102.7%	85	115		
o-Xylene	61.46	-	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		

ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits

Qualifiers:

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

2 of 3

Work Order:         9810084           Project:         4-1532	9810084 4-1532	4					Continu	Continuing Calibration Verification Standard	on Verificat	tion Stan	QC SUMMARY REPORT Calibration Verification Standard
Sample ID: CCV2 QC0606/07	Batch ID: GC-1_981029	Test Code:	Test Code: SW8020A	Units: µg/Kg		Analysis Date	s Date 10/29/98	9/98	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 F	RPDLimit	Quaf
Renzene	61.04	-	60	0	101.7%	85	115	1 1 1			1
Ethvibenzene	61.54	• •	60	0	102.6%	85	115				
m,p-Xylene	119.6	2	120	0	99.7 <i>%</i>	85	115				
o-Xylene	59.64	-	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 0	80	0 0	129.3%	20	150				
Fluorobenzene	81.34	5	80 B	Ð	%/.101	5	051				
Sample ID: CCV3 QC0606/07	Batch ID: GC-1_981029	Test Code:	Test Code: SW8020A	Units: µg/Kg		Analysis	Analysis Date 10/30/98	86/C	Prep Date:		
Client ID:	9810084	Run ID:	GC-1_981029A	A		SeqNo:	8221				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD R	RPDLimit	Quat
Benzene	57.2	+	60	0	95.3%	85	115				
Ethylbenzene	55.41	*	60	0	92.4%	85	115				
m,p-Xylene	109.5	2	120	0	91.3%	85	115				
o-Xylene	56.19	-	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 De	ND - Not Detected at the Reporting Limit		S - Sp	S - Spike Recovery outside accepted recovery limits	e accepted rec	overy limits		B - Analyte detected in the associated Method Blank	l in the associate	d Method Bl	ank
J - Analyte	J - Analyte detected below quantitation limits	its	K - KI	R - RPD outside accepted recovery limits	recovery limit	ន					3 of 3

# On Site Technologies, LTD.

CLIENT: Work Order: Project:	On Site Techno 9810084 4-1532	ologies, Limite	d Partnership		-	C SUMM OGATE	
Test No:	SW8020A						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				
MBI	103	112	102				

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	70-130
IBCBZ	= 4-Bromochlorobenzen	e 50-150
FLBZ	= Fluorobenzene	70-130
* Sur	rogate recovery outside ac	centance limits

#### Mountain States Analytical, Inc. Daily QC Batching Data Data Released for Reporting

		5:36
NK#	ANALYTE	CONC_FOUND #CONC_LIMIT
11-269	Mercury	0.0090 0.1000
12-269-2	Mercury	0.0380 0.1000
KE		QC LIMITS
<u>IPLE#</u>	ANALYTE	<u>CONC ADDED CONC SAMPLE CONC SPIKE % REC # LOWER UPPER</u>
07-89065 07-89065-2	Mercury	25.0000 -0.0800 22.8580 91.8 80.0 115.0 25.0000 -0.0800 16.6930 67.1 50.0 150.0
545-88838-3		25.0000 -0.0800 16.6930 67.1 50.0 150.0 25.0000 0.1430 23.3770 92.9 50.0 150.0
722-89323-4		25.0000 0.5370 19.8250 77.2 50.0 150.0
22 0,010 4	inclosely	
)		QC LIMITS
IPLE#	ANALYTE	CONC_ADDEDCONC_SAMPLERESULT_2_%REC2 # LOWER_UPPERRPD_ # L
707-89065	Mercury	25.0000 -0.0800 24.3530 97.7 80.0 115.0 6.3
PLICATE		
MPLE#	ANALYTE	
707-89065	Mercury	-0.0800 -0.0780 2.5 20.0 1.00
<u>9915#</u> 5W-269	ANALYTE	<u>CONC FOUND CONC KNOWN % REC # LOWER UPPER</u> 2.5230 2.5000 100.9 80.0 115.0
SW-207	Mercury	2.3230 2.3000 100.9 80.0 113.0
		QC LIMITS
v #	ANALYTE	TRUE_VALUE BATCH READ % REC # LOWER UPPER
V-	Mercury	3.0000 2.7510 91.7 90.0 110.0
V2	Mercury	5.0000 5.0280 100.6 80.0 120.0
V3	Mercury	5.0000 4.9360 98.7 80.0 120.0
V4	Mercury	5.0000 4.9430 98.9 80.0 120.0
V5	Mercury	5.0000 4.9520 99.0 80.0 120.0
V6	Mercury	5.0000 4.8960 97.9 80.0 120.0
<u>B#</u>	ANALYTE	CONC FOUND # CONC LIMIT
B-	Mercury	-0.0130 0.1000
B-	Mercury	0.0190 0.1000
B- B-	Mercury Mercury	-0.0380 0.1000 -0.0270 0.1000
B-	Mercury	-0.0430 0.1000
-		-0.0710 0.1000

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						

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#### Mountain States Analytical, Inc. Daily QC Batching Data Data Released for Reporting

Sequence : DATQ313

11/11/98 15:13:53 Group: 24652

Test Identification : HREXT-11/09/98-114 -2 Test Identification : HREXT-Metals for hr TCLP, by ICP Ther of Samples : 16 Tetch Data-Date/Time : 11/10/98 / 08:25:33

ANALYTE NK# CONC FOUND # CONC LIMIT 1-738 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

IKE						QC 1	LIMITS
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	<u>% REC #</u>	LOWER	UPPER
645-88838	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
645-88838-2	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
8	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
-				0,,,,,,	/014	00.0	

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#### Mountain States Analytical, Inc. Daily QC Batching Data Data Released for Reporting

Sequence : DATQ313

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 mber of Samples : 16 tch Data-Date/Time : 11/10/98 / 08:25:33

PIKE						QC	LIMITS		
MPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIK	<u>(E % REC</u>	<u># LOWE</u>	R UPPE	<u>R</u>	
4707-89065-3	Selenium	5.0000	0.0117	5.308	81 105.9	80.0	120.0		
_	Thallium	0.2000	-0.0004	0.208	39 104.6	80.0	120.0		
	Zinc	5.0000	0.0787	4.962	97.7	80.0	120.0		
ISD						QC L	IMITS		
MPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT	2 %REC2		UPPER	<u></u>	LIMIT
645-88838	Silver	0.1000	0.0001	0.096		80.0	120.0	0.2	20.0
-	Arsenic	5.0000	-0.0004	5.701	15 114.0	80.0	120.0	2.1	20.0
	Barium	10.0000	1.2016	11.569	103.7	80.0	120.0	2.0	20.0
	Cadmium	0.1000	0.0034	0.092	29 89.4	80.0	120.0	2.5	20.0
	Chromium	0.5000	0.0046	0.489	92 96.9	80.0	120.0	0.3	20.0
	Copper	0.5000	0.0070	0.480	94.7	80.0	120.0	2.9	20.0
	Lead	0.5000	0.0358	0.493	30 91.4	80.0	120.0	0.5	20.0
	Selenium	5.0000	0.0177	5.615	56 112.0	80.0	120.0	0.7	20.0
	Thallium	0.2000	0.0105	0.194	48 92.1	80.0	120.0	0.9	20.0
	Zinc	5.0000	0.1010	4.815	54 94.3	80.0	120.0	0.4	20.0
UPLICATE									
SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT DI	LUTION			
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			
DNTROL					QC LIMITS				
SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	<u>% REC #</u>	LOWER UPPE				
CSW-738	Silver	0.0972	0.1000	97.2	80.0 120				
	Arsenic	5.3134	5.0000	106.3	80.0 120				
	Barium	10.3736	10.0000	103.7	80.0 120				
	Cadmium	0.0925	0.1000	92.5	80.0 120				
	Chromium	0.4987	0.5000	99.7	80.0 120				
	Copper	0.4665	0.5000	93.3	80.0 120				
	Lead	0.4997	0.5000	99.9	80.0 120				
	Selenium	5,2727	5 0000			1 11			
	Selenium Thallium	5.2727 0.2077	5.0000	105.5	80.0 120				
	Selenium Thallium Zinc	5.2727 0.2077 5.0410	5.0000 0.2000 5.0000	103.9	80.0 120 80.0 120 80.0 120	0.0			
	Thallium	0.2077	0.2000	103.9 100.8	80.0 120 80.0 120	0.0			
cv #	Thallium Zinc	0.2077 5.0410	0.2000 5.0000	103.9 100.8 QC LII	80.0 120 80.0 120 MITS	).0 ).0			
<u>CCV #</u>	Thallium Zinc ANALYTE	0.2077 5.0410 TRUE VALUE	0.2000 5.0000 BATCH_READ	103.9 100.8 QC LII <u>% REC</u> <u>#</u>	80.0 120 80.0 120 MITS <u>LOWER</u> <u>UPPE</u>	).0 ).0 <u>:R</u>			
<u>ccv #</u> 1cv-	Thallium Zinc <u>ANALYTE</u>	0.2077 5.0410 <u>TRUE VALUE</u> 0.1000	0.2000 5.0000 <u>BATCH READ</u> 0.1012	103.9 100.8 QC LII <u>% REC</u> <u>#</u> 101.2	80.0 120 80.0 120 MITS <u>LOWER</u> <u>UPPE</u> 90.0 110.	0.0 0.0 <del><u>R</u> 0</del>			
	Thallium Zinc ANALYTE	0.2077 5.0410 TRUE VALUE	0.2000 5.0000 BATCH_READ	103.9 100.8 QC LII <u>% REC</u> <u>#</u> 101.2	80.0 120 80.0 120 MITS <u>LOWER</u> <u>UPPE</u>	0.0 0.0 <del>.</del> 0 .0			

#### Mountain States Analytical, Inc. Daily QC Batching Data Data Released for Reporting

Sequence : DATQ313

11/11/98 15:13:54 Group: 24652

A slysis Batch Number: HREXT-11/09/98-114 ~2 Test Identification : HREXT-Metals for hr TCLP, by ICP Number of Samples : 16 Furch Data-Date/Time : 11/10/98 / 08:25:33

QC LIMITS ANALYTE TRUE VALUE BATCH READ <u>% REC #</u> LOWER UPPER 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 1.0390 1.0000 103.9 90.0 110.0 Zinc 1.0000 1.0032 100.3 90.0 110.0 1--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 0.9599 90.0 110.0 1.0000 96.0 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 V2--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 :V3--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 CV4--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

Sequence : DATQ313

11/11/98 15:13:54 Group: 24652

Amalysis Batch Number: HREXT-11/09/98-114 -2 Test Identification : HREXT-Metals for hr TCLP, by ICP Number of Samples : 16 Frich Data-Date/Time : 11/10/98 / 08:25:33

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
-	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
💼 1-	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
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
66B3-	Silver	8000.0	0.0030
	Arsenic	ND	0.0150
	Barium	0.0005	0.0020
	Cadmium	ND	0.0010
	Chromium	ND	0.0050
	Соррег	0.0003	0.0050
	Lead	0.0010	0.0150
	Selenium	0.0077	0.0150
	Thallium	0.0038	0.0080
	Zinc	0.0002	0.0150
CCB4-	Silver	0.0009	0.0030
	Arsenic	ND	0.0150
	Barium	0.0005	0.0020
	Cadmium	0.000	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

e 5

#### Mountain States Analytical, Inc. Daily QC Batching Data Data Released for Reporting

Test Identification : HREXT-Metals for hr TCLP, by ICP mber of Samples : 16 tch Data-Date/Time : 11/10/98 / 08:25:33

Sequence : DATQ313

Result Footnotes -----

a) - Duplicates not evaluated: Results are <10x detection limit

(71) - 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

Page 1 of 1	28-Oct-98	SW9045B SW23.3.2/7.3.4.2	••••		Date/Time
CHAIN-OF-CUSTODY RECORD		Requested Tests \$W1311/6010A SW3010A SW7470 SW9		ide). Corrosivity and Ignitability.	Pang Oleen 14
CHAI	(800) 973-6724 (801) 972-6278	Bottle Type SW1010 SW1311		for TCLP Metals, Reactivity(Cyanide&Sulfide), Corrosivity and Ignitability.	Date/Time 10/26/98 1610 Received by: Received by:
On Site Technologies, LTD. 612 E. Murray Drive Farmington, NM 87401 (505) 325-2432	Subcontractor: Mountain States Analytical, Inc. TEL: 1645 West 2200 South Salt Lake City 11T 84119 Acct #:	trix Collection Date	9810084-01B Soil 10/27/98 11:00:00 PM	Comments: <u>Please analyze one (1) soil sample for TCL</u>	Relinquished by:
Shi					

	AIN OF CUSTODY RECORD	DV RE	CORD	2263
<b>ON SITE</b>	Date:	Date: 10/2×/9×	2	Page / of /
TECHNOLOGIES, LTD. 657 W. Maple • P. O. Box 2606 • Farmington NM 87499 LAB: (505) 325-5667 • FAX: (505) 325-6256	506 • Farmington NM 87499 • FAX: (505) 325-6256			
Purchase Order No.: 2/-	15 32	Name	Cird, Gral	Title
Name		Company	V in house	
	Dept.	Mailing Address	Address	
T Address INVVC		R City, State, Zip	te, Zip	
City, State, Zip		Telephone No.	ne No.	Teletax No.
Sampling Location: $\mathcal{L} \to \mathcal{L} \to $	Nord Spill		ANALYSIS REQUESTED	UESTED
	· 2016	ners		
Sampler: C S/. fer Car	, ,	Numb Contai	C T B C C C	
SAMPLE IDENTIFICATION SAMPLE	SAMPLE MATRIX PRES.	्रु	4 2 2 4 2 - / / /	
"Weret Gas S. 1. 542 6 6 P1 Carp 10/22	2300 Sv. 1 Cv. 1	1		16 4264 61
Relinquished by: CARC 7 Ja	Date/Time/ /2 * '5 * / 3 30	Received by:	Herde Reen.	Date/Timel/ 15/5/ 1332
Relinquished by:	Date/Time	Received by:		Date/Time
Relinquished by:	Date/Time	Received by:		-
Method of Shipment:		Rush	24-48 Hours 10 Working Days	/s   Special Instructions:
Authorized hv:	Date /2/2 × /9 ×			
(Client Signature <u>Must Accompany</u> Request)				
Distribution	Distribution: White - On Site Yellow - LAB Pi	Pink – Sampler	Goldenrod - Client	

OFF: (505) 325-5667



LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 16-Nov-98

Client: Work Order:	On Site Technol 9811006	ogies, Limited Partn	ership		-	fo: Delasso ID: S-22 ES	Loop Spill 3pt. Comp Sec. Contnm
Lab ID:	9811006-01A	Matrix: SOIL		Co	llection Da	te: 10/30/98	3:16:00 PM
Project:	4-1532				COC Reco	rd: 5591	
Parameter		Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE	ORGANICS	SV	V8015				Analyst: <b>HR</b>
T/R Hydrocarbon	s: 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

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1



OFF: (505) 325-5667

LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 16-Nov-98

Client: Work Order:	On Site Technol 9811006	ogies, Limited Partn	ership		-	fo: Delasso D: S-23 WS	Loop Spill 5 2pt. Comp Sec. Contnn
Lab ID:	9811000 9811006-02A	Matrix: SOIL			-		3 3:20:00 PM
Project:	4-1532				COC Reco	rd: 5591	
Parameter		Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE	ORGANICS	SV	V8015				Analyst: <b>HR</b>
T/R Hydrocarbon	s: C10-C28	100	25		mg/Kg	1	11/11/98

Qua	lifi	ers:	
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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

1 of 1

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

CURNT:       On Site Technologies, Limited Partnership Provide crists:       OC SULMARY REPORT         Rovid Order:       9811006       Amalysis Den 111/168       Amalysis Den 111/168       Method Blank         Same Diation       9911005       Runtin:       0.01       Serve Under       Prop Diat: 111/108         Amalysis       Bartin Di Cocca Birtini       Bartin Di Cocca Birtini       Serve Under       Prop Diat: 111/108       Prop Diat: 111/108         Amalysis       Result       Poul       Poul       Serve Under       Result       Poul       Serve Diat       Diat         Amalysis       Result       Poul       Poul       Serve Under       Result       Poul       Poul       Diat         Amalysis       Result       Poul       Poul       Serve Under       Result       Result	On Site Technologies, LTD.	chnologies	, LTD.						
D. Mist     Batch ID: GC2_381111     Test Code: SW015     Units: mp/g     Analysis Date 1111/1058     Pep Date: 111105       Raun D:     CC2_381114     SeqNo:     SeqNo:     6800     SeqNo:     6800       Raun D:     CC2_381114     SeqNo:     SeqNo:     6800     RepDirint     C       Construction     ND     Z5     ND     Z5     SeqNo:     25	CLJENT: Work Order: Project:	On Site Ter 9811006 4-1532	chnologies, Limited P	artnership				QCSU	MMARY REPOR Method Bla
Result         PQL         SFK value         SFK far Val         %FEC         LowInth         RepUtinit         Q           coarbons: C10-C28         ND         25         3         3         3         3         3           coarbons: C10-C28         ND         25         3	Sample ID: MB1 Client ID:		Batch (D: GC-2_981111 9811006		1111			Date 11/11 8630	ate: 11/10/98
ND - Not Detected at the Reporting Limit     S - Spike Recovery outside accepted recovery limits	T/R Hydrocarbons	s: C10-C28	ND	25					
ND - Not Detected at the Reporting Limit       S - Spike Recovery outside accepted recovery limits									
ND - Not Detected at the Reporting Limit       S - Spike Recovery outside accepted recovery limits									
ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits									
	Qualifiers:	ND - Not Detec I - Analyte dete	ted at the Reporting Limit cted helow quantitation lin	ite	S - Spik R - RPD	e Recovery outside and outside and outside and outside accented recovery outside	ccepted recovery limit overv limits		ed in the associated Method Blanl

On Site Tec	On Site Technologies, LTD.
<b>CLIENT:</b>	On Site Technologies, Limited Partnership
Work Order:	9811006

4-1532

Project:

QC SUMMARY REPORT

**Date:** 16-Nov-98

Sample Duplicate

Sample ID: 9811003-01AD	Batch ID: GC-2_981111 Test Code: SW8015	Test Code:	1	Units: mg/Kg		Analysis	Analysis Date 11/12/98	98	Prep Da	Prep Date: 11/11/98	
Client ID:	9811006	Run ID: GC-2_	GC-2_981111A	٩		SeqNo:	8652				
Analyte	Result	PQL	PQL SPK value SPK Ref Val	SPK Ref Val	%REC	LowLimit	HighLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit Qual	Qual Angle 1
T/R Hydrocarbons: C10-C28	299.8	25	o	0	0.0%	σ	o	357.6	17.6%	15	R 200 11/16/

ND - Not Detected at the Reporting Limit Qualifiers:

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

I of I

	On Site Tec	On Site Technologies, Limited Partnership	tnership						QC SUMMARY REPORT	<b>MMAR</b>	Y REP(	<b>DR</b>
Work Order: 9 Project: 4	9811006 4-1532								)	Sample	Sample Matrix Spike	Spi
Sample ID: 9811018-01AMS		Batch ID: GC-2_981111	Test Code: 1	SW8015	Units: mg/Kg		Analysis	Analysis Date 11/11/98	8	Prep Da	Prep Date: 11/11/98	
Client ID:		9811006	Run ID:	GC-2_981111A	۷		SeqNo:	8651				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit R	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	10-C28	<b>4</b> <b>1</b>	55	501.9	0	81.9%	02	130				
Qualifiers: NI	D - Not Detec: Analyte detec	ND - Not Detected at the Reporting Limit 1.4 malvia detected helow connection limits	<u>8</u>	S - Spil R - RPI	<ul> <li>S - Spike Recovery outside accepted recovery limits</li> <li>R - RPD outside accented recovery limits</li> </ul>	accepted reco	very limits	Β.	B - Analyte detected in the associated Method Blank	in the associa	ated Method I	3 <b>la</b>

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i.

<b>CLIENT:</b>	On Site Te	On Site Technologies, Limited Partnership	artnership						<b>OC SUN</b>	MMAR	<b>OC SUMMARY REPORT</b>	) K
Work Order: Project:	9811006 4-1532								Laboratory Control Spike - generic	Control	Spike - ge	ner
Sample ID: LCS Soil	oil	Batch ID: GC-2_981111	1 Test Code:	SW8015	Units: mg/Kg		Analysis	Analysis Date 11/11/98	1/98	Prep D	Prep Date: 11/10/98	
Client ID:		9811006	Run ID:	GC-2_981111A	1A		SeqNo:	8632				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1/K Hydrocarbons: C10-C28	C10-C28	4 4 0	ß	<u>n</u> 2	>	800 00	2	2				
Qualifiers:	ND - Not Detec	ND - Not Detected at the Reporting Limit		S - Sp	S - Spike Recovery outside accepted recovery limits	accepted reco	very limits	-	B - Analyte detected in the associated Method Blank	in the assoc	ciated Method B	lanl
	J - Analyte dete	J - Analyte detected below quantitation limits	mits	R - RI	R - RPD outside accepted recovery limits	covery limits						1 of 1

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06           11         Test Code:         SW8015         Units:         Mg/Kg           9811006         Run ID:         GC-2_981111         Test Code:         SPK value         SPK Ref Val           9811006         Run ID:         GC-2_981111         Test Code:         SPK value         SPK Ref Val           9811006         Run ID:         GC-2_981111         Test Code:         SPK value         SPK Ref Val           9811006         Run ID:         GC-2_981111         Test Code:         SPK value         SPK Ref Val           9811006         Run ID:         GC-2_981111         Test Code:         SPK value         SPK Ref Val           9811006         Run ID:         GC-2_981111         Test Code:         SPK value         SPK Ref Val           9811006         Run ID:         GC-2_981111         Test Code:         SPK value         SPK Ref Val           9811006         Run ID:         GC-2_981111A         Imits: mg/Kg         9         0           9811006         Run ID:         GC-2_981111A         Imits: mg/Kg         0         0           9811006         Run ID:         GC-2_981111A         Imits: mg/Kg         0         0           9811006         Run ID:         GC-2_981111A	malKa		QC SUI	QC SUMMARY REPORT	ORT
10Batch ID: GC-2_981111Test Code:SW8015Units: $mg/Kg$ 9811006Run ID:GC-2_981111SPK Ref Val10Batch ID: GC-2_981111Test Code:SW8015Units:9811006Run ID:GC-2_981111Test Code:SW8015Units:9811006Run ID:GC-2_981111Test Code:SW8015Units:9811006Run ID:GC-2_981111Test Code:SW8015Units:9811006Run ID:GC-2_981111SPK Ref Val10Batch ID: GC-2_981111Test Code:SW8015Units:9811006Run ID:GC-2_981111ADits:Mg/Kg9811006Run ID:GC-2_981111ASPK Ref Val10Batch ID: GC-2_981111Test Code:SPK valueSPK Ref Val9811006Run ID:GC-2_981111ADits:Mg/Kg9811006Run ID:GC-2_981111ADits:Mg/Kg10Batch ID: GC-2_981111Test Code:SW8015Units:11Test Code:SW8015Units:Mg/Kg11Test Code:SW8015Units:Mg/Kg11Test Code:SPK valueSPK Ref Val11Batch ID: GC-2_981111Test Code:SPK Value11Test Code:SPK ValueSPK Ref Val11Test Code:SPK ValueSPK Ref Val11Test Code:SPK ValueSPK Ref Val12S11106Run ID:GC-2_981111413Test Code:SPK	maiKa		Continuing Calibration Verification Standard	on Verification Sta	ndard
9811006         Run ID:         GC-2_981111           Result         PQL         SPK kef Value         SPK Ref Value $455.5$ 25         501.9         0 $455.5$ 25         501.9         0 $455.5$ 25         501.9         0 $8atch$ ID:         GC-2_981111         Test Code:         SW8015         Units:         mg/Kg $9811006$ Run ID:         GC-2_981111         Test Code:         SPK kef Value         PC $811006$ Run ID:         GC-2_981111         Test Code:         SPK kef Value         PC $811006$ Run ID:         GC-2_981111         Test Code:         SPK kef Value         PC $9811006$ Run ID:         GC-2_981111         Test Code:         SPK kef Value         PC $9811006$ Run ID:         GC-2_981111A         PC         PC         PC         PC $9811006$ Run ID:         GC-2_981111A         PC         PC         PC         PC $9811006$ Run ID:         GC-2_981111A         PC         PC         PC         PC         PC         PC         PC         PC <th>D. URI</th> <th>Analysis [</th> <th>Analysis Date 11/11/98</th> <th>Prep Date:</th> <th></th>	D. URI	Analysis [	Analysis Date 11/11/98	Prep Date:	
ResultPQLSPK valueSPK Ref Val10 $455.5$ 25501.9010Batch ID: GC-2_981111Test Code:SW8015Units: mg/Kg9811006Run ID:GC-2_98111ASPK valueSPK Ref Val9811006Run ID:GC-2_981111Test Code:SPK valuePC10Batch ID: GC-2_981111Test Code:SW8015Units: mg/Kg9811006Run ID:GC-2_981111Test Code:SPK valuePC9811006Run ID:GC-2_981111ADifts: mg/Kg010Batch ID: GC-2_981111Test Code:SPK valueSPK Ref Val9811006Run ID:GC-2_981111ADifts: mg/Kg010Batch ID: GC-2_981111Test Code:SPK valueSPK Ref Val11Test Code:SPK valueSPK Ref Val012SPK valueSPK valueSPK ref Val13Test Code:SPK valueSPK Ref Val14SPK valueSPK valueSPK ref Val14Test Code:SPK valueSPK ref Val14SPK valueSPK valueSPK ref Val14Test Code:SPK valueSPK ref Val15S01.9O0116Batch ID: GC-2_981111Test Code:SPK value17Test Code:SPK valueSPK ref Val18Batch ID: GC-2_981111Test Code:SPK value19Batch ID: GC-2_981111Test Code:SPK value11 <t< td=""><td></td><td>SeqNo:</td><td>8631</td><td></td><td></td></t<>		SeqNo:	8631		
455.5       25       501.9       0         10       Batch ID: <b>GC-2_981111</b> Test Code: <b>SW8015</b> Units: <b>mg/Kg</b> 9811006       Run ID: <b>GC-2_981111A</b> Batch ID: <b>GC-2_981111A</b> Units: <b>mg/Kg</b> 10       Batch ID: <b>GC-2_981111</b> Test Code: <b>SW8015</b> Units: <b>mg/Kg</b> 11       Test Code: <b>SW8015</b> Units: <b>mg/Kg</b> 9811006       Run ID: <b>GC-2_981111</b> Test Code: <b>SW8015</b> Units: <b>mg/Kg</b> 9811006       Run ID: <b>GC-2_981111</b> Test Code: <b>SW8015</b> Units: <b>mg/Kg</b> 9811006       Run ID: <b>GC-2_981111</b> Test Code: <b>SW8015</b> Units: <b>mg/Kg</b> 10       Batch ID: <b>GC-2_981111</b> Test Code: <b>SW8015</b> Units: <b>mg/Kg</b> 9811006       Run ID: <b>GC-2_981111</b> Test Code: <b>SW8015</b> Units: <b>mg/Kg</b> 10       Batch ID: <b>GC-2_981111</b> Test Code: <b>SW8015</b> Units: <b>mg/Kg</b> 11       Test Code: <b>SW8015</b> Units: <b>mg/Kg</b> 0       0         11       Test Code: <b>SW8015</b> Units: <b>mg/Kg</b> 0       0         11       Test Code: <b>SW8015</b> Units: <b>mg/Kg</b> 0       0         11       Test Code: <b>SW8015</b> Units: <b>mg/Kg</b> 0       0	if Val %REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
10         Batch ID: GC-2_981111         Test Code:         SW8015         Units:         mg/Kg           9811006         Run ID:         GC-2_981111A         SPK value         SPK Ref Val           9811006         Run ID:         GC-2_981111         Test Code:         SV8015         Units:         mg/Kg           10         Batch ID: GC-2_981111         Test Code:         SV8015         Units:         mg/Kg           9811006         Run ID:         GC-2_981111         Test Code:         SVK value         SPK Ref Val           11         Result         PQL         SPK value         SPK Ref Val         0         0           10         Batch ID: GC-2_981111         Test Code:         SV8015         Units:         mg/Kg           11         Result         PQL         SPK value         SPK Ref Val         0         0           11         Batch ID: GC-2_981111         Test Code:         SV8015         Units:         mg/Kg           11         Fesult         PQL         SPK value         SPK Ref Val         0         0           12         S13.7         25         501.9         0         0         0         0           13         S13.7         25         50	0 90.8%	85	115		
9811006         Run ID:         GC-2_981111A           Result         PQL         SPK kalue         SPK Ref Val           10         Batch ID: GC-2_981111         Test Code:         Sw8015         Units: mg/Kg           9811006         Run ID:         GC-2_981111         Test Code:         SPK Ref Val           9811006         Run ID:         GC-2_981111         Test Code:         SPK Ref Val           9811006         Run ID:         GC-2_981111         SPK ref Val         0           9811006         Run ID:         GC-2_981111A         0         0         0           10         Batch ID: GC-2_981111         Test Code:         SPK value         SPK Ref Val         0           10         Batch ID: GC-2_981111         Test Code:         SPK value         SPK Ref Val         0         1           10         Batch ID: GC-2_981111         Test Code:         SPK value         SPK Ref Val         0         1           11         Test Code:         SPK value         SPK Ref Val         0         0         1           11         Test Code:         SPK value         SPK value         SPK Ref Val         0         0           11         Batch ID: GC-2_9811111         Test Code:	mg/Kg	Analysis [	Analysis Date 11/11/98	Prep Date:	
Result         PQL         SPK value         SPK Ref Val           10         Batch ID: GC-2_981111         Test Code:         \$80015         Units:         mg/Kg           9811006         Run ID:         GC-2_981111         Test Code:         SPK value         SPK Ref Val           9811006         Run ID:         GC-2_981111A         Units:         mg/Kg           9811006         Run ID:         GC-2_981111A         0         0           10         Batch ID: GC-2_981111         Test Code:         SPK value         SPK Ref Val           9811006         Run ID:         GC-2_981111A         0         0         0           10         Batch ID: GC-2_981111         Test Code:         SPK value         SPK Ref Val           9811006         Run ID:         GC-2_981111A         0         0         1           11         Test Code:         SPK value         SPK Ref Val         0         1           9811006         Run ID:         GC-2_981111A         0         0         1           11         Test Code:         SPK value         SPK value         0         0           11         Batch ID: GC-2_981111         Test Code:         SPK valu         0         0		SeqNo:	8655		
1       433.5       25       501.9       0         10       Batch ID: GC-2_981111       Test Code:       SW8015       Units: mg/Kg         9811006       Run ID:       GC-2_981111A       Units: mg/Kg         9811006       Run ID:       GC-2_981111A       SPK value       SPK Ref Val         9811006       Run ID:       GC-2_981111A       0       0         10       Batch ID: GC-2_981111       Test Code:       SW8015       Units: mg/Kg         9811006       Run ID:       GC-2_981111A       0       0       1         9811006       Run ID:       GC-2_981111A       0       0       1         10       Batch ID: GC-2_981111       Test Code:       SW8015       Units: mg/Kg       0       1         11       Test Code:       SW8015       Units: mg/Kg       0       0       1         10       Batch ID: GC-2_981111       Test Code:       SW8015       Units: mg/Kg       0       0         11       Batch ID: GC-2_981111       Test Code:       SW8015       Units: mg/Kg       0       0         11       Batch ID: GC-2_981111       Test Code:       SW8015       Units: mg/Kg       0       0         11       Ba	if Val %REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
10         Batch ID: GC-2_981111         Test Code:         SW8015         Units:         mg/Kg           9811006         Run ID:         GC-2_981111A         SPK value         SPK Ref Val           9811006         Run ID:         GC-2_981111A         SPK value         SPK Ref Val           10         Batch ID: GC-2_981111         Test Code:         SW8015         Units:         mg/Kg           10         Batch ID: GC-2_981111         Test Code:         SW8015         Units:         mg/Kg           10         Batch ID: GC-2_981111         Test Code:         SW8015         Units:         mg/Kg           9811006         Run ID:         GC-2_981111A         SPK value         SPK Ref Val         0         1           10         Batch ID: GC-2_981111         Test Code:         SW8015         Units:         mg/Kg           10         Batch ID: GC-2_981111         Test Code:         SW8015         Units:         mg/Kg           9811006         Run ID:         GC-2_981111A         Inits:         mg/Kg         0           11         Actore         SW8015         Units:         Mg/Kg         0         0           11         Actore         SW8015         Units:         0         0	0 86.4%	85	115		
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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

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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

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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

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#### 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]

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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		661-3865
After Hours	(918)	661-8118
General MSDS Informat:	ion:	
	(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, includes,n-Octane n-Nonane Naphthenes Aromatic Hydrocarbons, inclu Benzene Toluene p-Xylene m-Xylene 1,3,5-Trimethylbenzene 1,2,4-Trimethylbenzene 1,2,3-Trimethylbenzene	Various 111-65-9 111-84-2 Various des Various 71-43-2 108-88-3 106-42-3 108-38-3 95-47-6 108-67-8 95-63-6 526-73-8	approx 50 approx 1.0 approx 3.0 approx 33.0 approx 17.0 approx 0.8 approx 1.0 approx 1.0 approx 3.0 approx 1.4 approx 3.8 approx 1.0	NE 300 ppm 200 ppm NE 10 ppm 100 ppm 100 ppm 100 ppm 25 ppm 25 ppm 25 ppm	NE 300 ppm 200 ppm NE NE 10 ppm 100 ppm 100 ppm 100 ppm 25 ppm** 25 ppm** 25 ppm**
* Operations covered by the			1910.1028,	will

have a 1 ppm 8 hour TWA and a 5 ppm STEL.

\*\* For Trimethylbenzene

NA - Not Applicable NE - Not Established

Diesel Fuel No. 1 (PTS-553) (093970)

## C. Personal Protection Information

Ventilation:

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.

Use adequate ventilation to control below

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.

Diesel Fuel No. 1 (PTS-553) (093970)

## 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 Suspect Carcinogen Mutagen Teratogen Allergic Sensitize Highly Toxic			Toxic Corrosive Irritant Target Organ Toxin Specify - Lungs-Aspira Blood & Live Kidney Toxin	r Toxin;	 X .d;

## 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.

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## J. DOT Transportation

	Fuel, Aviation, Turbine Engine
Hazard Class:	Combustible Liquid
ID Number:	
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 inform	ation is applicable only when the product is

ote: 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):

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

Diesel Fuel No. 1 (PTS-553) (093970)

## 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.

Phillips Petroleum Company (references to Phillips Petroleum Company or Phillips includes it's divisions, affilitates and subsidiaries) believes that the information contained herein (including data and statements) is accurate as of the date hereof. NO WARRANTY OF MERCHANTADILLTY, FITNESS FOR ANY PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE AS CONCERNS THE INFORMATION HEREIN PROVIDED. The information provided herein relates only to the specific product designated and may not be valid where such product is used in combination with any other materials or in any proess. Further, since the conditions and methods of use of the product and information refered to herein are beyond the control of Phillips, Phillips expressly disclaims any and all liability as to any results obtained or arising from any use of the product or such information. No statement made herein shall be construed as a permission or recommendation for the use of any product in a manner that might infringe existing patents.

Diesel Fuel No. 1 (PTS-553) (093970)

December 31,

Material Safety Data Sh



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# **DUAL PURPOSE FUEL OIL**

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*E*.

Inc

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

PHONE NUMBERS				
Emergency:				
<b>Business Hours</b>	(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

Dual Purpose Fuel Oil (PTS-143) (001847)

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## 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 Suspect Carcinoge Mutagen Teratogen Allergic Sensitiz Highly Toxic			Toxic Corrosive Irritant Target Organ Toxin Specify - Lung-Aspiration	 _X Hazard	 X

### 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

Fire Extinguishing Media:

Special Fire Fighting Procedures:

LEL - Not Established UEL - Not Established

Dry chemical, foam or carbon dioxide (CO2)

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 selfcontained 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 Compressed Gas Flammable Gas Flammable Liquid Flammable Solid	Flammable Aerosol Explosive X Health Hazard (Section F) Organic Peroxide	Oxidizer Pyrophoric Unstable Water Reactive
--	---	--

\_\_\_\_ 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.

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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

	PHONE NUMBERS		
PHILLIPS 66 COMPANY	Emergency:		
A Division of Phillips Petroleum Company	Business Hours	(918)	661-3865
Bartlesville, Oklahoma 74004	After Hours	(918)	661-8118
	General MSDS Informat	ion:	
		(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
Ethvl 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-Xvlene	95-47-6	< 3	100 ppm	100 ppm
Methyl-tert-Butyl Ether	1634-04-4	<15	NĒ	NĚ
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				
XX Quarterly avorage cqu Unleaded gasolines, <	ivalent to <0 0 05 g Pb/gal	.1 g Pb/gal for	leaded gaso	lines
(1) Areas covered by the	Bonzono Stand	29 CFR 191	0 1028	have

NA - Not Applicable NE - Not Established

Gasolines (All Grades) (PTS-67)(001868)

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.

Gasolines (All Grades) (PTS-67)(001868)

## 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 Haza'rd Categories:

Animal Human

#### Animal Human

Known Carcinogen			Toxic		<del></del>	
Suspect Carcinogen Mutagen	_X_		Corrosive Irritant		<u></u>	
<b>U</b>	- <u></u>			Tanda		~~~~
Teratogen			Target Organ			_^_
Allergic Sensitizer			Specify -	Lung-Aspiration	Hazard	
Highly Toxic		<del></del>				

Gasolines (All Grades) (PTS-67)(001868)

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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): Flammable Limits (% by Volume in Air):	<-35F (-37C) (Estimated) 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.

Gasolines (All Grades) (PTS-67)(001868)

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## 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 1D 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 Compressed Gas Flammable Gas _X_ Flammable Liquid Flammable Solid	Flammable Aerosol Explosive X Health Hazard (Section F) Organic Peroxide	Oxidizer Pyrophoric Unstable Water Reactive
--	--	--

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

Gasolines (All Grades) (PTS-67)(001868)

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 $\mathcal{C}$ 

## 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 Methyl-tert-Butyl Ether 1,2,4-Trimethyl Benzene

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

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Gasolines (All Grades) (PTS-67)(001868)

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# 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

#### TYPICAL COMPOSITION

>75% Highly refined base oils (CAS 64742-54-7 and 64742-65-0) 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

skin Expected to cause no more than minor 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.

Not expected to be acutely toxic

ingestion.

1

If respiratory discomfort or irritation occurs, move the person to fresh air. See a doctor if discomfort or irritation continues.

#### Ingestion

by

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.

Chevron Environmental Health Center, Inc., P.D. Box 4054, Richmond, CA 94804-0054 Emergency Phone Number (415) 233-3737

X-IRC021 (07-85)

No. 2163 Rev. 2 10/22/85

CPS 225020



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<sub>2</sub>, 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 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

The above information is based on data of which we are aware and is believed to be correct as of the date hereof. Since the information contained here in may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

No. 2163 2

# **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 X-MCO41 107-85

No. 2163 Rev. 2 10/22/85 removed by washing with soap and water. See Chevron Material Safety Data Sheet No. 1793 for additional information on used motor oil.

NO. 2163 4

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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

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.

Expected to cause no more than minor skin irritation following prolonged frequently repeated contact.

Wash thoroughly with soap and water skin following contact. or Launder contaminated clothing. Inhalation

Wash skin thoroughly with soap and water. If respiratory discomfort or irritation Launder contaminated clothing. occurs, move the person to fresh air. See a doctor if discomfort or irritation continues.

Not expected to have systemic acute toxicity by ingestion.

#### 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.

Chevron Environmental Health Center, Inc., P.O. Box 4054, Richmond, CA 94804-0054 Emergency Phone Number (415) 233-3737

X-IRC021 (07-86)

No. 861 Rev. 3 09/26/85

1

Eyes

Skin

#### ADDITIONAL HEALTH DATA

Signs and symptoms of respiratory tract irritation may include, but may not be '(mited 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.

special skin Skin Protection: No protection is necessary. Respiratory Protection: No special respiratory protection is normally required. However, if operating conditions concentrations which airborne create exceed the recommended exposure standard, the use of an approved respirator is recommended.

Ventilation: Use adequate ventilation to keep the airborne concentrations of this erial below the recommended exposure standard.

FIRE PROTECTION

Flash Point: (COC)392°F(200°C) Min. Autoignition Temp.: NDA Flammability Limits: n/a Extinguishing Media: CO2, 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, self-contained breathing including See Hażardous Decomposition apparatus. Products. Read the entire MSD5.

### 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 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

he --ove information is based on data of which we are aware and is believed to be correct as of the date hereof. Since the information contained erein may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to se data hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is urnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

No. 861

Dear Custemer: 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 reself 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

#### 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%</td>

a doctor.

contaminated clothing.

#### 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<sup>3</sup>. This is the Federal OSHA exposure standard and the ACGIH (1984-85) TLV for mineral oil mists.

PHYSIOLOGICAL & HEALTH EFFECTS

# EMERGENCY & FIRST AID PROCEDURES

Expected to cause no more than minor eye irritation.

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

Wash skin thoroughly with soap and water. Launder contaminated clothing. Wash thoroughly with soap and water following skin contact. Launder

Flush eyes immediately with fresh water

for at least 15 minutes while holding the eyelids open. If irritation persists, see

Inhalation

Skin

Eyes

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.

Chevron Environmental Health Center, Inc., P.O. Box 4054, Richmond, CA 94804-0054 Emergency Phone Number (415) 233-3737 X-IRCOZI (07-85)

No. 861 Rev. 3 09/26/85

CPS 250102

Chevron

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#### ADDITIONAL HEALTH DATA

Signs and symptoms of respiratory tract irritation may include, but may not be

'mited to, one or more of the following, \_epending 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

Eyes 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 eep the airborne concentrations of this aterial 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<sub>2</sub>, 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 r explosion may result. X-IRCO31 (04-85)

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, **Lency**e 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

The above information is based on data of which we are aware and is believed to be correct as of the date hereof. Since the information contained ner ein may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

No. 861

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Chevron U.S.A. Inc.

# aterial Safety Data Sheet

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

HEVRON Ultra-Duty Grease 2

CPS 254600

### PICAL COMPOSITION

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

#### POSURE STANDARD

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

PHYSIOLOGICAL & HEALTH EFFECTS

EMERGENCY & FIRST AID PROCEDURES

procedures are required.

						Eyes	
	pected to ritation.	cause	e no more	than '	minor ey	/ <b>e</b>	Flush eyes immediately with fresh water for at least 15 minutes while holding the eyelids open. If irritation persists, see a doctor.
						Skin	L
ΞE	xpected to	caus	e no more	e than m	ninor sk	in	Remove contaminated clothing. Wash skin
_ i	rritation	fo	llowing	prolo	onged	or	thoroughly with soap and water. If a skin
	requently dditional		peated h Data.	contac	st. S	ee	rash develops, see a doctor. Launder contaminated clothing.
		i				Inhalat	ion
ы	ot expect	ed t	o be a	cutely	toxic	by	Since this material is not expected to be
<b>-</b> i	nhalation.	•		-	•	-	an acute inhalation problem, no first aid

Ingestion

by

Not expected to be acutely toxic ingestion.

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



ADDITIONAL HEALTH DATA See following pages

#### Jee rorrowing bages

### SPECIAL PROTECTIVE INFORMATION

"e 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 **Zlash Point:** n/a Autoignition Temp.: NDA Flammability Limits: n/a Extinguishing Media: CO2, 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, self-contained breathing including oparatus. See Hazardous Decomposition coducts. Read the entire MSDS.

#### 'ECIAL PRECAUTIONS

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

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

ENVIRONMENTAL PROTECTION

Environmental Impact: This material is not expected to present any environmental problems.

X-IAC031 (0.1

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

above Enformation is based on data of which we are aware and is believed to be correct as of the date hereof. Since the information contained in may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is ished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose. No. 2495

# **Material Safety Data Sheet**

CPS 254600

#### CHEVRON Ultra-Duty Grease 2

### DITIONAL HEALTH DATA

3

Experimental evidence indicates that substituted benzotriazole may cause allergic skin ractions. 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 onditions, chemical analyses, and the results of Ames tests all support our opinion that these oils are not carcinogenic.

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SPECIALTY OIL COMPANY, INC.



## MATERIAL SAFETY DATA SHEE

Also San's CLUB "ALCWEATHER ANTI	PREEZS AND "AUTO-GARD"
MATERIAL IDENTIFICATION	
NAME: WAL MART ANTIFREZE/COOLANT Specialty Oil Company Product Code S2100 Synonyms: Ethylene Glycol Chemical Family: EPA Cas #107-21-1 Fanufacturer: Specialty Oll Company, Inc. Eddress: 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
I . HAZARDOUS INGE EDIENTS	HAZARD DATA
Hazard Determination:	
Health Effect Properties	• · · · · · · · · · · · · · · · · · · ·
Ethylene Glycol	Toxic to nervous system, kidney and liver.
Physical Effect Properties: Prode Li Mixture: None.	Not applicable
1 . PHYSICAL DATA	
Appearance and Odor: <u>Fluorescent green lic</u> Boiling Point (°F) <u>320</u> Voor Pressure ImmHg) <u>0.05</u> por Density (Air=1) <u>2.14</u> olubility in Water <u>Completely</u>	guid: Mild glycol odor.Specific Gravity (H20=1)1.125\$ Volatile (by volume)NAEvaporation Rate (=1)NA
	STABLE: X UNSTABLE:
Hazardous Decomposition Products: Carbon glycol.	
Conditions To Avoid: Strong oxidizing agent	ts.
Hardous Polymerization: Will not occur.	
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	•
	•••
ember 12, 1985	

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CAS Registry No.: 107-21-1

<u>v.</u>	FIRE A	NO EXPL	OSION HAZA	RD DATA	LFL	3.2	UFL:	15.3
Flash Poir Handle an	d store in	l used): accorda	230°F (PMCC nce with NFP	<u>;)</u> A procedure fo	or Class II	B Com	bustible	Llquid.
Extinguisi carbo	ning Media on dioxide	i: Use w	aler spray, (	lry chemical, a	alcohol resi	istant fo	am, or	
lf lea to pr	ak or spill ovide pro	has not tection fo	ignited, use	ater to keep fi water spray to iting to stop a sures.	o disperse	the vap	ors and	-
carbo space If wa	on dioxide : without iter evapo	and other proper proper proper proper proper protected by the second states of the second sta	er toxic mater rotective equi	oducts of comb ials. Do not pment includir terials could b	enter enclo 19 respirat	osed or ory pro	confined tection.	monoxide
Nation <b>al F</b> Health <u>1</u>				CLASSIFICATIC Least	- 0 SI	ight -	D RATH Mode xtreme -	erate - 2
VI.	TRA	SPORTA	TION AND S	TORAGE	DOT H	AZARD	CLASS:	Not App
Liqui	d per NF	PA Code	Handling And No. 30-1984. Not D.O.T.	d Storing: Pr Store and ha Regulated.	oduct is C ndle accor	lass III dingly.	8 Comb	ustible
Placard:	•			•				
Label: No		•						
$\overline{\nabla \Pi}$	HEAL	TH HAZA	RD INFORMA	TION				
PEL <u>None</u> Ceiling Va	available lue <u>50 p</u> p	TLV m or 125	50 ppm or 1 mg/m <sup>3r</sup>	25 mg/m <sup>3</sup> (Ce ted average".	iling value	<u>s)</u> =		
			ene glycol.					
		-	•	in, inhalation				
Signs and No a	Symptom dverse he	s of Expo alth effec	sure/Medical It has been id	Conditions Ag lentified speci included for co	gravated I fically for	this pr	oduct.	
September	12, 1985							

	CAS Registry No.: 107-21-1
•	
•	
$\mathbf{V}\mathbf{I}\mathbf{I}$ .	HEALTH HAZARD INFORMATION (continued)
Ethylene g may cause	lycol may cause irritation to eyes, lungs, or skin. Overexposure central nervous system depression and liver or kidney toxicity.
Listed as Carcin	nogen or Potential Carcinogen by: NTP <u>No</u> IARC <u>No</u> OSHA <u>No</u>
VIII	EMERGENCY AND FIRST AID PROCEDURES
Eyes: Immediat attention	ely wash with fresh water for at least 15 minutes and get medical
Skin: Remove c with soar	contaminated clothing as soon as possible. Wash exposed skin thoroughly p and water. If irritation persists, consult a physician.
	contaminated clothing before reuse. Extremely contaminated leather ould be discarded.
	overexposure occurs, remove individual to fresh air. If breathing dminister artificial respiration.
begins, l lungs.	his material is swallowed, do not induce vomiting. If vomiting lower victim's head in an effort to prevent vomitus from entering Immediately consult a physician. Do not attempt to give liquid to ascious person.
••	ans: Emergency procedure for ethylene glycol intoxication should be
	. •
I X . S	PILL, LEAK AND DISPOSAL PROCEDURES
CRA HAZARDO	DUS WASTE: Yes No X
as much of by soaking items includ	Or Leak: Contain spill immediately in smallest area possible. Recover the product itself as possible by such methods as vacuuming, followed up residual fluids by use of absorbent materials. Remove contaminated ding soils and place in proper container for disposal. Avoid washing, directing material to storm or sanitary sewers.
of nonrecy	Method: Recycle as much of the recoverable product as possible. Dispose clable material by such methods as controller incineration, complying with ate and local regulations.
•	

September 12, 1985

CAS Registry No.: 107-21-1

## C. 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.

The above data is based on tests and experience which Specialty believes reliable and are supplied for informational purposes only. Specialty DISCLAIMS ANY LIABILITY FOR DAMAGE OR INJURY WHICH RESULTS FROM THE USE OF THE ABOVE DATA AND NOTHING CONTAINED THEREIN SHALL CONSTITUTE A GUARANTEE, WARRANTY (INCLUDING WARRANTY OF MERCHANTABILITY) OR REPRESENTATION (INCLUDING FREEDOM FROM PATENT LIABILITY) BY SPECIALTY WITH RESPECT TO THE DATA, THE PRODUCT DESCRIBED, OR THEIR USE FOR ANY SPECIFIC PURPOSE, EVEN IF THAT PURPOSE IS KNOWN TO SPECIALTY.

September 12, 1985

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

Project #4-1532

## Westside Before Cleanup

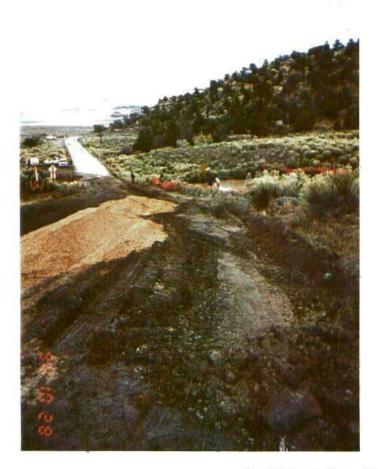


## Westside After Cleanup



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

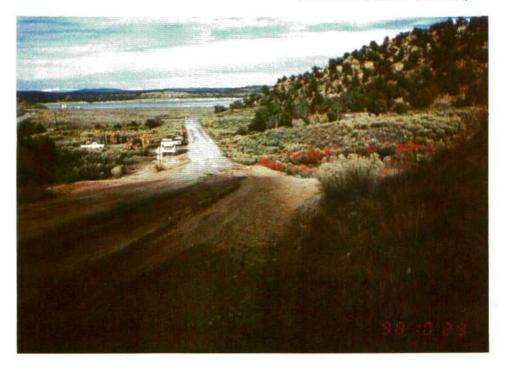
Project #4-1532



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

