District I P.O. Box 1980, Hobbs, NM District II

State of New Mexico Energy, Minerals and Natural Resources Department

P.O. Drawed DE more represent, Fougt

DISTRICT LITTOIL & GAS INSPECTOR

OIL CONSERVATION DIVISION P.O. Box 2088

Santa Fe, New Mexico 87504-2088

SUBMIT 1 COPY TO APPROPRIATE DISTRICT OFFICE AND 1 COPY TO SANTA FE OFFICE

10

RANKING SCORE (TOTAL POINTS):

MAR 1 2 1997

PUT REMEDIATION AND CLOSURE REPORT Operator: Chateau Oil & Gas (formerly Snyder Oil Corptelephone: 632 - 8056 Address: P.O. Box 2038, Farmington, NM 87499-2038 Facility Or: Clayton #1E - Excavation #1 Well Name Location: Unit or Qtr/Qtr SecUnit P Sec 02 T30N R 12W county San Juan Pit Type: Separator X Dehydrator Other Land Type: BLM , State , Fee X , Other \_\_\_\_\_ Pit dimensions: length 15', width 15', depth 4'Pit Location: (Attach diagram) Reference: wellhead x , other Footage from reference: 82' Direction from reference: 75 Degrees X East North Xof West South Depth To Ground Water: Less than 50 feet (20 points) 50 feet to 99 feet (10 points) (Vertical distance from Greater than 100 feet (0 Points) 0 contaminants to seasonal high water elevation of ground water) Yes (20 points) Wellhead Protection Area: No (0 points) DEC 3 1 1996 (Less than 200 feet from a private domestic water source, or; less than 1000 feet from all other water sources) ONL CON. DIV. DIST. 3 Less than 200 feet (20 points) Distance To Surface Water: 200 feet to 1000 feet (10 points) (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, Greater than 1000 feet (0 points) 10 irrigation canals and ditches)

Date Remediation St	arted: 6/27/94	Dated Comp	<b>leted:</b> 9/15/95
Remediation Method:		Approx. cubic y	
(Check all appropriate sections)	Landfarmed X	Insitu Bioremed	
,	Other		
Remediation Location (ie. landfarmed onsite, name and location of offsite facility)		ite	-
General Description	Of Remedial Action:	Contaminated s	oils from the pit were
excavated to a dept	h of 16 feet. The ex	cavated material	was spread on location
in a landfarm. The	landfarm was raked a	nd tilled freque	ntly. This pit had an
overflow pit adjace	nt to it and was exca	vated at the sam	e time. Material from
both excavations wa	s spread in the landf	arms together.	Some of the material
was placed on the a	djoining location, th	e Clayton #2A.	All material remediated
by 9/15/95 (see att Ground Water Encound	ached lab reports). tered: No <u>x</u>	Yes Depth	
Final Pit: Closure Sampling: (if multiple samples,	Sample location Pi	t bottom center	
attach sample results and diagram of sample	Sample depth 16-17	ft deep	
locations and depths)	Sample date 11/14/9		e time 11:45 am
	Sample Results		Landfarm Samples, TPF
	Benzene(ppm)		Landfarm(85) =256 ppn Landfarm(33) =100 ppn
	Total BTEX(ppm)	<del></del>	Landfarm(64) = 148 ppn Cla2A-100 = 86 ppn
	Field headspace	e(ppm) 8.0	
	TPH (418.1) = 4	9 ppm	
Ground Water Sample	Yes No X	(If yes, attach	sample results)
I HEREBY CERTIFY THE	AT THE INFORMATION AS	BOVE IS TRUE AND	COMPLETE TO THE BEST
DATE 12/5/96	DDINTED NI	MF Shawn Adams	Env. Consultant
SIGNATURE JUM	AND TITLE		. Services, Inc.



LAB: (505) 325-5667

### TOTAL PETROLEUM HYDROCARBONS

Attn:

Shawn Adams

Date:

11/15/94

Company: Contract Environmental Services, Inc.

Lab ID:

Address:

P.O. Box 505

Sample No.

2296 3984

City, State: Kirtland, NM 87417

Job No.

2-1000

**Project Name:** 

Synder Oil Corporation

**Project Location:** Sampled by:

CLA1E-400 Excavation 1 Bottom Clearance

SA

Date:

11/14/94 Time:

11:45

Analyzed by:

DLA

Date:

11/15/94

Type of Sample:

Soil

#### Laboratory Analysis

Laboratory		Total	Petroleum
Identification	Sample Identification	<b>I</b> 1	ocarbons
	Synder Oil Corporation		
3984-2296	CLA1E-400 Excavation 1 Bottom Clearance		49 mg/kg

Method - EPA Method 418.1 Total Petroleum Hydrocarbons

P. O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT



# TOTAL PETROLEUM HYDROCARBONS EPA Method 418.1

#### **Snyder Oil Company**

Project ID:

Clayton 1 E

Sample Matrix:

Soil

Preservative: Condition:

Cool Intact Report Date:

09/18/95

Date Sampled:

09/13/95

Date Received:
Date Extracted:

09/15/95 09/15/95

Date Analyzed:

09/15/95

	·	
	xcauation	. #2
/	xcavarior	, ~~
old	bottom	sample
	•	' /

Sample ID	Lab ID	Concentration (mg/kg)	Detection Limit (mg/kg)
Pit Bottom	1503	1,230	92.4
Landfarm (85)	1504	256	24.5
Landfarm (33)	1505	100	16.6
Landfarm (64)	1506	148	16.7

ND- Analyte not detected at the stated detection limit.

Reference:

Method 3550 - Sonication Extraction; Test Methods for Evaluating Solid Waste, SW-846, United States Environmental Protection Agency, September, 1986; Method 418.1 - Petroleum Hydrocarbons, Total Recoverable; Chemical Analysis of Water and Waste, United States Environmental Protection Agency, 1978.

Comments:

Analyst

Review



LAB: (505) 325-5667

# TOTAL PETROLEUM HYDROCARBONS

Attn:

Shawn Adams

Company: Contract Environmental Services, Inc.

Date:

11/7/94

Address:

P.O. Box 505

Lab ID:

2189

Sample No.

3873

City, State: Kirtland, NM 87417

Job No.

2-1000

Project Name:

Synder Oil Corporation

**Project Location:** 

CLA2A-100 SA

Date:

11/4/94 Time:

15:43

Sampled by: Analyzed by:

DC

Date: 11/7/94

Type of Sample:

Soil

#### Laboratory Analysis

Laboratory Identification	Sample Identification	Total Petroleum Hydrocarbons
3873-2189	Synder Oil Corporation CLAZA-100 - Landfarm Clearance	86 mg/kg

Method - EPA Method 418.1 Total Petroleum Hydrocarbons

Approved by: Date:

District I
P.O. Box 1980, Hobbs, NM
District II
P.O. Drawer DD, Artesia, NM 84211
District III
1000 Rio Brazos Rd, Aztec, NM 87410

# State of New Mexico Energy, Minerals and Natural Resources Department

SUBMIT 1 COPY TO APPROPRIATE DISTRICT OFFICE AND 1 COPY TO SANTA FE OFFICE

# OIL CONSERVATION DIVISION P.O. Box 2088 Santa Fe, New Mexico 87504-2088

# PIT REMEDIATION AND CLOSURE REPORT

Address: P.O.   Facility Or: C.   Well Name Location: Unit of Pit Type: Sepan	au Oil & Gas (formerly Sn  Box 2038, Farmington, NM  layton #1E - Excavation #.  or Qtr/Qtr Sec Unit P sec  cator Dehydrator Of  d, State, Fee _x	87499-2038 2 c_02_T30N_R12W_c	County SAN JUAN
Pit Location: (Attach diagram)	Pit dimensions: length Reference: wellhead X Footage from reference: Direction from reference	107'	
Depth To Ground (Vertical distance contaminants to see high water elevate ground water)	e from easonal	50 feet to 99 fe	et (20 points) Bet (10 points) D feet (0 Points) 0
domestic water so	ction Area: et from a private urce, or; less than l other water sources)		Yes (20 points) No (0 points) 0
Distance To Su (Horizontal dista lakes, ponds, riv irrigation canals	nce to perennial ers, streams, creeks,		0 feet (10 points) 00 feet (0 points) 10

Date Remediation Sta	arted: 7/1/94	Dated Comp	leted: 9/15/95
Remediation Method:	Excavation X	Approx. cubic y	ards 500
(Check all appropriate sections)	Landfarmed X	Insitu Bioremed	iation
	Other		
Remediation Location (ie. landfarmed onsite, name and location of offsite facility)	n: Onsite <u>X</u> Offs	ite	-
General Description			
were excavated to a	depth of approximate	ly 12 feet where	bedrock was encountered
The excavated materi	al was mixed in with	the material fro	m the separator pit and
spread on location i	n a landfarm. Some	of the material v	was landfarmed on the
adjoining location,	the Clayton #2A. Al	l of the materia	was remediated by
9/15/95 (see attache	ed lab reports).		
Ground Water Encount	ered: No X	Yes Depth	•
Final Pit: Closure Sampling: (if multiple samples, attach sample results	Sample location		
and diagram of sample locations and depths)	Sample depth 12 ft.		e time 10:45 am
	Sample date 12/2/9	Sampı	e cime 10.43 dam
	Sample Results		Landfarm Samples, TP: Landfarm(85) =256 ppm
	Benzene(ppm) _	<u>non-det</u> ect	Landfarm(33) =100 ppm Landfarm(64) =148 ppm
	Total BTEX(ppm	) 28.19 ppm	Cla2A-100 = 86 ppm
	Field headspac	e(ppm) 74	
	TPH(418.1) = 40	•	
Ground Water Sample	8015 mod.: Gas Die	esel = 8.2 ppm (If yes, attach	sample results)
I HEREBY CERTIFY THE		BOVE IS TRUE AND	COMPLETE TO THE BEST
DATE 12/5/96	( )		Dun Gan will be at
SIGNATURE Noun	PRINTED N AND TITLE	AME Shawn Adams, Contract Env	. Services, Inc.



#### **VOLATILE AROMATIC HYDROCARBONS**

#### Synder Oil Co.

Project ID:

Sample ID:

Clayton 1E Pit Bottom Report Date:

09/20/95

Lab ID:

1503

Date Sampled: Date Received:

09/13/95 09/15/95

Sample Matrix:

Soil Cool

Date Extracted: Date Analyzed:

0.22

09/20/95 09/20/95

Preservative: Condition:

Intact

Target Analyte	Concentration (mg/kg)	Detection Limit (mg/kg)
Benzene	ND	0.22
Toluene	0.69	0.22
Ethylbenzene	2.80	0.22
m,p-Xylenes	18.4	0.44

ND - Analyte not detected at the stated detection limit.

6.30

**Quality Control:** 

Surrogate

o-Xylene

Percent Recovery

**Acceptance Limits** 

Trifluorotoluene

101

81 -117%

Bromofluorobenzene

103

74 -121%

Reference:

Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics;

Test Methods for Evaluating Solid Wastes, SW-846, United States

Environmental Protection Agency, Final Update I, July, 1992.

Comments:

Analvst

Review



LAB: (505) 325-1556

#### TOTAL PETROLEUM HYDROCARBONS

Attn:

Shawn Adams

Date:

2-Dec-96

Company: Contract Environmental Services, Inc.

COC No.:

6219

Address: P.O. Box 505

Sample No.

13064

City, State: Kirtland, NM 87417

Job No.

2-1000

Project Name:

Chateau Oil & Gas - Clayton #1E

**Project Location:** 

CLAY-2000; Overflow Pit Bottom, 12' deep on Sandstone

2-Dec-96 Time:

Sampled by: Analyzed by:

JB HR Date: Date:

2-Dec-96

10:45

Sample Matrix:

Soil

#### Laboratory Analysis

Parameter	Result	Detection Limit	Unit of Measure	Method
Total Petroleum Hydrocarbons, TPH	408	25	mg/kg	EPA Method 418.1

#### Quality Assurance Report

Laboratory Fortified Blank/Spike Soil

Laboratory Identification	Analyzed Value	Acceptable Range	Unit of Measure
Laboratory Fortified Blank Soil - QCBS2	<25	<25	mg/kg
Laboratory Fortified Spike Soil - QCSS1	925	828 - 1024	mg/kg

**Duplication** 

Laboratory Identification	(% RSD)	Limit ( % RSD )
13064-6219	4.0	15.0

Approved by: Date:



LAB: (505) 325-1556

#### TPH - Gasoline / Diesel Range Organics

Attn:

Shawn Adams

Date:

3-Dec-96

Company: Contract Environmental Services, Inc.

COC No.:

6219

Address:

P.O. Box 505

Sample No.

13064

Job No.

2-1000

City, State: Kirtland, NM 87417 Project Name:

**Project Location:** 

Chateau Oil & Gas - Clayton #1E CLAY-2000; Overflow Pit Bottom, 12' deep on Sandstone

Sampled by:

JB

Date: Date:

3-Dec-96

2-Dec-96 Time:

10:45

Analyzed by: Sample Matrix:

Soil

DC/HR

#### Laboratory Analysis

Parameter		Result	Unit of Measure	Detection Limit	Unit of Measure
Gasoline Range Organics (C5 - C9)		5.2	mg/kg	5.0	mg/kg
Diesel Range Organics (C10 - C28)		8.2	mg/kg	5.0	mg/kg
	TOTAL	13.4	mg/kg		

Quality Assurance Report

GRO QC No.:

0480-STD

DRO QC No.:

0512-STD

#### Calibration Check

Parameter	Method Blank	Unit of Measure	True Value	Analyzed Value	% Diff	Limit
Gasoline Range (C5 - C9)	<50	ppb	1,351	1,236	8.5	15%
Diesel Range (C10 - C28)	<5.0	ppm	100	103	3.3	15%

Matrix Spike

Parameter	1- Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Gasoline Range (C5-C9)	98	94	(70-130)	3	20%
Diesel Range (C10-C28)	117	110	(70-130)	4	20%

Method - SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography

Approved by: Date:

- Train of the Alexandria franchis series of



### TOTAL PETROLEUM HYDROCARBONS EPA Method 418.1

#### **Snyder Oil Company**

Project ID:

Clayton 1 E

Sample Matrix:

Soil

Preservative: Condition:

Cool

Intact

Report Date:

09/18/95

Date Sampled:

09/13/95

Date Received:

09/15/95

Date Extracted:

09/15/95

Date Analyzed:

09/15/95

E	xcauation	, #Ji
old	bottom	sample

Sample ID	Lab ID	Concentration (mg/kg)	Detection Limit (mg/kg)
Pit Bottom Landfarm (85) Landfarm (33) Landfarm (64)	1503	1,230	92.4
	1504	256	24.5
	1505	100	16.6
	1506	148	16.7

ND- Analyte not detected at the stated detection limit.

Reference:

Method 3550 - Sonication Extraction; Test Methods for Evaluating Solid Waste, SW-846, United States Environmental Protection Agency, September, 1986; Method 418.1 - Petroleum Hydrocarbons, Total Recoverable; Chemical Analysis of

Water and Waste, United States Environmental Protection Agency, 1978.

Comments:

Review



LAB: (505) 325-5667

### TOTAL PETROLEUM HYDROCARBONS

Attn:

Shawn Adams

Date:

11/7/94

Company: Contract Environmental Services, Inc.

CLA2A-100

Lab ID:

2189

Address:

P.O. Box 505

City, State: Kirtland, NM 87417

Sample No. Job No.

3873 2-1000

Project Name:

Synder Oil Corporation

**Project Location:** 

SA

Date:

11/4/94 Time:

15:43

Sampled by: Analyzed by:

DC

Date:

11/7/94

Type of Sample:

Soil

#### Laboratory Analysis

Laboratory		Total Petroleum
Identification	Sample Identification	Hydrocarbons
	Synder Oil Corporation	11, 11, 11, 11, 11, 11, 11, 11, 11, 11,
<i>3873-2189</i>	CLAZA-100 - Landfarm Clearance	86 mg/kg

Method - EPA Method 418.1 Total Petroleum Hydrocarbons

Approved by:

Date:

P. O. BOX 2606 • FARMINGTON, NM 87499

- Technology Blending Industry with the Environment

District I
P.O. Box 1980, Hobbs, NM
District II
P.O. Drawer DD. Artesia, NM 84211
District III
1000 Rio Brazos Rd, Aztec, NM 87410

# State of New Mexico Energy, Minerals and Natural Resources Department

SUBMIT 1 COPY TO APPROPRIATE DISTRICT OFFICE AND 1 COPY TO SANTA FE OFFICE

# OIL CONSERVATION DIVISION P.O. Box 2088 Santa Fe, New Mexico 87504-2088

# PIT REMEDIATION AND CLOSURE REPORT

Operator: Chateau Oil & Gas (formerly Sn	yder Oil Corp <b>Telephone:</b> 632 * 8056
Address: P.O. Box 2038, Farmington, NM	87499-2038
Facility Or: Clayton #1E - Excavation #3 Well Name	3
Location: Unit or Qtr/Qtr Sec_Unit P Sec_	c02 T30N R 12W County San Juan
Pit Type: Separator Dehydrator_X Ot	ther
Land Type: BLM, State, Fee X	, Other
Pit Location: Pit dimensions: length (Attach diagram)  Reference: wellhead X  Footage from reference:  Direction from reference	, other
Depth To Ground Water: (Vertical distance from contaminants to seasonal high water elevation of ground water)	Less than 50 feet (20 points) 50 feet to 99 feet (10 points) Greater than 100 feet (0 Points)
Wellhead Protection Area: (Less than 200 feet from a private domestic water source, or; less than 1000 feet from all other water sources)	Yes (20 points) No (0 points) <u>0</u>
Distance To Surface Water: (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 200 feet (20 points) 200 feet to 1000 feet (10 points) Greater than 1000 feet (0 points) 10
	RANKING SCORE (TOTAL POINTS): 10

Date Remediation Sta	arted: 9/6/95 Dated Completed: 10/24/96
Remediation Method:	
(Check all appropriate sections)	Landfarmed X Insitu Bioremediation
	Other
Remediation Location	n: Onsite X Offsite
(ie. landfarmed onsite, name and location of offsite facility)	-
General Description	Of Remedial Action: Contaminated soil from the pit was
excavated to a depth	n of approx. 18'. Straw, manure, and fertilizer were added
to the pit bottom to	o enhance the degradation of hydrocarbons in the bottom of
pit. Excavated mate	erial was landfarmed on location. The landfarm and compost
were tilled and sampl	led periodically until sufficient remediation levels were
	material cleared on 10/24/96 (see attached lab data).
	tered: No X Yes Depth
Gloding water mooding	
Final Pit: Closure Sampling: (if multiple samples, attach sample results and diagram of sample	Sample location Pit bottom center, below compost and in compost.
locations and depths)	Sample depth Bottom, 19ft
	Sample date 7/12/96 Sample time 10:15 am
Compost Samples  I.D. # TIPH Cas Diese  Clay-500 389 n/d n/d  Clay-501 949 5.3 n/d  Clay-502 368  Clay-503 39  n/d = non-detect	Sample date 7/12/96  Sample time 10:15 am  Landfarm Samples (ppm): Gas Diesel C-1 C-1 n/d n/d n/d n/d n/d n/d 11.4  Total BTEX(ppm) 2.527  Field headspace(ppm)
I.D. # TPH Gas Diese Clay-500 389 n/d n/d Clay-501 949 5.3 n/d Clay-502 368 Clay-503 39	Sample date 7/12/96  Sample time 10:15 am  Landfarm Samples (ppm): Gas Diesel C-1 n/d n/d n/d n/d n/d n/d Total BTEX(ppm) 2.527
I.D. # TPH Gas Diese Clay-500 389 n/d n/d Clay-501 949 5.3 n/d Clay-502 368 Clay-503 39	Sample date   7/12/96   Sample time   10:15 am     Sample Results   Landfarm Samples (ppm): Gas   Diesel     C-1
I.D. # TPH Cas Diese Clay-500 389 n/d n/d Clay-501 949 5.3 n/d Clay-502 368 Clay-503 39 n/d = non-detect  Ground Water Sample	Sample date 7/12/96  Sample time 10:15 am  Iardfarm Samples (ppm): Gas Diesel C-1



LAB: (505) 325-1556

#### AROMATIC VOLATILE ORGANICS

Attn:

Shawn Adams

Date:

24-Jul-96

Company: Contract Environmental Services, Inc.

COC No.:

4202

Address:

P.O. Box 505

Sample No.

11502

City, State: Kirtland, NM 87417

Job No.

2-1000

**Project Name:** 

Snyder Oil Corporation - Clayton #1E

**Project Location:** 

CLAY-100; Below Compost

12-Jul-96 Time:

10:15

Sampled by: Analyzed by:

SA HR Date: Date:

23-Jul-96

Sample Matrix:

Soil

#### Laboratory Analysis

Parameter		Rosult	Units of Measure	Detection Limit	Units of Measure
Benzene		<0.2	ug/kg	0.2	ug/kg
Toluene		43.8	ug/kg	0.2	ug/kg
Ethylbenzene		265.6	ug/kg	0.2	ug/kg
m,p-Xylene o-Xylene	·	1855.0	ug/kg	0.2	ug/kg
o-Xylene		362.5	ug/kg	0.2	ug/kg
	TOTAL	2527.0	ug/kg		

Method - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography



LAB: (505) 325-1556

#### TOTAL PETROLEUM HYDROCARBONS

Attn:

Shawn Adams

Date:

15-Jul-96

Company: Contract Environmental Services, Inc.

COC No.:

4202

Address:

P.O. Box 505

Sample No.

11502

City, State: Kirtland, NM 87417

Job No.

2-1000

Project Name:

Snyder Oil Corporation - Clayton #1E

**Project Location:** Sampled by:

SA

CLAY-100; Below Compost Date:

12-Jul-96 Time:

Analyzed by:

HR

Date:

15-Jul-96

10:15

Sample Matrix:

Soil

#### Laboratory Analysis

Parameter	Result	Detection Limit	Unit of Measure	Method
Total Petroleum Hydrocarbons, TPH	378	25	mg/kg	EPA Method 418.1

#### Quality Assurance Report

Laboratory Fortified Blank/Spike Soil

Laboratory Identification	Analyzed Value	Acceptable Range	Unit of Measure
Laboratory Fortified Blank Soil - QCBS2	<25	<25	mg/kg
Laboratory Fortified Spike Soil - QCSS1	938	828 - 1024	mg/kg

**Duplication** 

		Limit				
Laboratory Identification	( % RSD )	( % RSD )				
11494-4202	<0.1	15.0				

Approved by:



LAB: (505) 325-1556

# TPH - Gasoline / Diesel Range Organics

Attn:

Address:

Shawn Adams

Company: Contract Environmental Services, Inc.

Date:

25-Jul-96

P.O. Box 505

COC No.:

4202

City, State: Kirtland, NM 87417

Sample No. Job No.

11502 2-1000

Project Name:

Snyder Oil Corporation - Clayton #1E

**Project Location:** Sampled by:

SA

CLAY-100; Below Compost Date:

12-Jul-96 Time:

10:15

Analyzed by: Sample Matrix:

HR Soil

Date:

25-Jul-96

#### Laboratory Analysis

Parameter		Result	Unit of Measure	Detection Limit	Unit of Measure
Gasoline Range Organics (C5 - C9)		20.9	mg/kg	5.0	mg/kg
Diesel Range Organics (C10 - C28)		7.5	mg/kg	5.0	mg/kg
	TOTAL	28.4	mg/kg		

Quality Assurance Report

GRO QC No.:

0467-STD

DRO QC No.:

0479-STD

Calibration Check

Parameter	Method Blank	Unit of Measure	True Value	Analyzed Value	% Diff	Limit
Gasoline Range (C5 - C9)	<50	ppb	1,350	1,186	12.2	15%
Diesel Range (C10 - C28)	<5.0	ppm	2,000	1,931	3.4	15%

Matrix Spike

Parameter	1- Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Gasoline Range (C5-C9)	102	109	(70.120)		
Diesel Range (C10-C28)	111	121	(70-130) (70-130)	6	20% 20%

Method - SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography

Approved by:

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



LAB: (505) 325-5667

Attn:

Shawn Adams

Date:

24-May-96

Company: Contract Environmental Services, Inc.

COC No.:

4025

Address:

P.O. Box 505

Sample No.

10997

City, State: Kirtland, NM 87417

Job No.

2-1000

Project Name:

Snyder Oil Corporation - Clayton 1E

**Project Location:** 

CLAY-500; Compost Pile, Center West 2' SA

Date:

23-May-96 Time:

10:30

Sampled by: Analyzed by:

BV

Date:

23-May-96

Sample Matrix:

Soil

#### Laboratory Analysis

Parameter	Result	Detection Limit	Unit of Measure	Method
Total Petroleum Hydrocarbons, TPH	389	25	mg/kg	EPA Method 418.1

#### Quality Assurance Report

Laboratory Fortified Blank/Snike Soil

Laboratory Identification	Analyzed Value	Acceptable Range	Unit of Measure
Laboratory Fortified Blank Soil - QCBS2	<25	< 25	mg/kg
Laboratory Fortified Spike Soil - QCSSI	875	828 - 1024	mg/kg

Duplication

Dupacuson		
Laboratory Identification	( % RSD )	Limit (% RSD)
10990-4025	2.8	15.0

Approved by:



LAB: (505) 325-5667

Attn:

Shawn Adams

Date:

3-Jun-96

Company: Contract Environmental Services, Inc.

COC No.:

4025

Address:

P.O. Box 505

Sample No.

10997

City, State: Kirtland, NM 87417

Job No.

2-1000

Project Name:

Snyder Oil Corporation - Clayton 1E

**Project Location:** 

CLAY-500, Compost Pile, Center West 2'

Date:

23-May-96 Time:

10:30

Sampled by: Analyzed by:

SA HR

Date:

31-May-96

Sample Matrix:

Soil

#### Laboratory Analysis

Parameter	Rosult	Unit of Measure	Detection Limit	Unit of Measure
Gasoline Range Organics (C5 - C9)	<5.0	mg/kg	5.0	mg/kg
Diesel Range Organics (C10 - C28)	<5.0	mg/kg	5.0	mg/kg
Т	OTAL <5.0	mg/kg		

Quality Assurance Report

GRO QC No.:

0461-STD

DRO QC No.:

0475-STD

#### Calibration Check

Parameter	Method Blank	Unit of Measure	True Value	Analyzed Value	% Diff	Limit
Gasoline Range (C5 - C9)	<50	ppb	1,350	1,176	12.9	15%
Diesel Range (C10 - C28)	< 5.0	ppm	2,000	1,802	9.9	15%

Matrix Spike

Parameter	1- Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Gasoline Range (C5-C9)	91	89	(70-130)	2	20%
Diesel Range (C10-C28)	97	99	(70-130)	2	20%

Method - SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography

Approved by: Date:

P. O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



LAB: (505) 325-5667

Date:

24-May-96

Attn:

Company: Contract Environmental Services, Inc.

COC No.:

4025

Address:

Sample No.

P.O. Box 505

Shawn Adams

10998

City, State: Kirtland, NM 87417

Job No.

2-1000

Project Name:

Snyder Oil Corporation - Clayton 1E

**Project Location:** 

CLAY-501; Compost Pile, Center West 5'

Date:

23-May-96 Time:

10:30

Sampled by: Analyzed by:

BV

Date:

23-May-96

Sample Matrix:

Soil

#### Laboratory Analysis

Parameter	Result	Detection Limit	Unit of Measure	Method
Total Petroleum Hydrocarbons, TPH	949	25	mg/kg	EPA Method 418.1

#### Quality Assurance Report

Laboratory Fortified Blank/Spike Soil

Laboratory Identification	Analyzed Value	Acceptable Range	Unit of Measure
Laboratory Fortified Blank Soil - QCBS2	<25	<25	mg/kg
Laboratory Fortified Spike Soil - QCSSI	875	828 - 1024	mg/kg

Dunlication

- Dapacteron		
Laboratory Identification	( % RSD )	Limit (% RSD)
10990-4025	2.8	15.0

Approved by:

LAB: (505) 325-5667

# TPH - Gasoline / Diesel Range Organics

Attn:

Shawn Adams

Company: Contract Environmental Services, Inc.

Date: COC No.:

3-Jun-96

Address:

P.O. Box 505

Sample No.

4025

10998

City, State: Kirtland, NM 87417

Job No.

2-1000

Project Name:

Snyder Oil Corporation - Clayton 1E

**Project Location:** Sampled by:

SA

CLAY-501, Compost Pile, Center West 5' Date:

23-May-96 Time:

10:30

Analyzed by: Sample Matrix:

HR Soil

Date:

31-May-96

## Laboratory Analysis

Parameter		Result	Unit of Measure	Detection Limit	Unit of Measure
Gasoline Range Organics (C5 - C9)		5.3	mg/kg	5.0	mg/kg
Diesel Range Organics (C10 - C28)		<5.0	mg/kg	5.0	mg/kg
	TOTAL	5.3	mg/kg	•	

Quality Assurance Report

GRO QC No.:

0461-STD

DRO QC No.:

0475-STD

Calibration Check

Parameter	Method Blank	Unit of Measure	True Value	Analyzed Value	% Diff	Limit
Gasoline Range (C5 - C9)	<50	ppb	1,350	1,176	12.9	15%
Diesel Range (C10 - C28)	<5.0	ppm	2,000	1,802	9.9	15%

Matrix Spike

Parameter	1- Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Gasoline Range (C5-C9)	91	89	(70-130)	2	20%
Diesel Range (C10-C28)	97	99	(70-130)	2	20%

Method - SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography

Approved by: Date:



LAB: (505) 325-5667

Attn:

Shawn Adams

Company: Contract Environmental Services, Inc.

Address:

P.O. Box 505

City, State: Kirtland, NM 87417

Snyder Oil Corporation - Clayton 1E

Project Name: **Project Location:** Sampled by:

CLAY-502; Compost Pile, Center East 2' Date:

23-May-96 Time:

10:30

24-May-96

4025

10999

2-1000

Date:

COC No.:

Job No.

Sample No.

Analyzed by: Sample Matrix: ΒV Soil

Date:

23-May-96

Laboratory Analysis

Parameter	Result	Detection Limit	Unit of Measure	Method
Total Petroleum Hydrocarbons, TPH	368	25	mg/kg	EPA Method 418.1

#### Quality Assurance Report

Laboratory Fortified Blank/Snike Soil

Laboratory Identification	Analyzed Value	Acceptable Range	Unit of Measure
Laboratory Fortified Blank Soil - QCBS2	<25	<25	mg/kg
Laboratory Fortified Spike Soil - QCSS1	875	828 - 1024	mg/kg

Dunlication

Laboratory Identification	( % DOD )	Limit
Laboratory Identification	( % RSD )	(% RSD)
10990-4025	2.8	15.0
<u> </u>		13.0

Approved by: Date:



LAB: (505) 325-5667

Attn:

Shawn Adams

Date:

24-May-96

Company: Contract Environmental Services, Inc.

COC No.:

4025

Address:

P.O. Box 505

Sample No.

11000

Job No.

2-1000

City, State: Kirtland, NM 87417

Snyder Oil Corporation - Clayton 1E

Project Name: **Project Location:** 

CLAY-503; Compost Pile, Center East 5' SA

Date:

23-May-96 Time:

10:30

Sampled by: Analyzed by:

BV

Date:

23-May-96

Sample Matrix:

Soil

#### Laboratory Analysis

Parameter	Rosult	Detection Limit	Unit of Measure	Method
Total Petroleum Hydrocarbons, TPH	39	25	mg/kg	EPA Method 418.1

#### Quality Assurance Report

Laboratory Fortified Blank/Spike Soil

Laboratory Identification	Analyzed Value	Acceptable Range	Unit of Measure
Laboratory Fortified Blank Soil - QCBS2	<25	<25	mg/kg
Laboratory Fortified Spike Soil - QCSS1	875	828 - 1024	mg/kg

Duplication

		Limit
Laboratory Identification	( % RSD )	( % RSD )
10990-4025	2.8	15.0

Approved by:



LAB: (505) 325-1556

#### TPH - Gasoline / Diesel Range Organics

Attn:

Shawn Adams

Date:

30-Oct-96

Company: Contract Environmental Services, Inc.

COC No.:

Address:

Sample No.

6162 12710

P.O. Box 505

City, State: Kirtland, NM 87417

Job No.

2-1000

Project Name:

Snyder Oil Corporation - Clayton 1E

**Project Location:** 

C-1; Soil Farm Center SA/CM

Date:

24-Oct-96 Time:

12:00

Sampled by: Analyzed by:

DC/HR

Date:

30-Oct-96

Sample Matrix:

Soil

#### Laboratory Analysis

Parameter	Result	Unit of Measure	Detection Limit	Unit of Measure
Gasoline Range Organics (C5 - C9)	<5.0	mg/kg	5.0	mg/kg
Diesel Range Organics (C10 - C28)	<5.0	mg/kg	5.0	mg/kg
т	OTAL <5.0	mg/kg		

Quality Assurance Report

GRO QC No.:

0493-STD

DRO QC No.:

0489-STD

#### Calibration Check

Parameter	Method Blank	Unit of Measure	True Value	Analyzed Value	% Diff	Limit
Gasoline Range (C5 - C9)	<50	ppb	1,350	1,326	1.8	15%
Diesel Range (C10 - C28)	<5.0	ppm	100	101	1.4	15%

Matrix Spike

Parameter	1- Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Gasoline Range (C5-C9)	107	103	(70-130)	3	20%
Diesel Range (C10-C28)	110	97	(70-130)	9	20%

Method - SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography

Approved by: Date:

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



LAB: (505) 325-1556

# TPH - Gasoline / Diesel Range Organics

Attn:

Shawn Adams

Company: Contract Environmental Services, Inc.

Date:

30-Oct-96

Address:

P.O. Box 505

COC No.: Sample No.

6162 12711

City, State: Kirtland, NM 87417

Job No.

2-1000

**Project Name:** 

Snyder Oil Corporation - Clayton 1E

**Project Location:** 

C-2; Soil Farm East

SA/CM

Date:

24-Oct-96 Time:

12:00

Sampled by: Analyzed by:

DC/HR

Date:

30-Oct-96

Sample Matrix:

Soil

#### Laboratory Analysis

Parameter	-	Result	Unit of Measure	Detection Limit	Unit of Measure
Gasoline Range Organics (C5 - C9)		<5.0	mg/kg	5.0	mg/kg
Diesel Range Organics (C10 - C28)		<5.0	mg/kg	5.0	mg/kg
	TOTAL	< 5.0	mg/kg		

Quality Assurance Report

GRO QC No.:

0493-STD

DRO QC No.:

0489-STD

#### Calibration Check

Parameter	Method Blank	Unit of Measure	True Value	Analyzed Value	% Diff	Limit
Gasoline Range (C5 - C9)	<50	ppb	1,350	1,326	1.8	15%
Diesel Range (C10 - C28)	<5.0	ppm	100	101	1.4	15%

Matrix Snike

Parameter	1- Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Gasoline Range (C5-C9)	107	103	(70-130)	3	20%
Diesel Range (C10-C28)	110	97	(70-130)	9	20%

Method - SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography

Approved by: Date:



LAB: (505) 325-1556

#### TPH - Gasoline / Diesel Range Organics

Attn:

Shawn Adams

Company: Contract Environmental Services, Inc.

Date: COC No.: 30-Oct-96

Address:

P.O. Box 505

Sample No.

6162

12712

City, State: Kirtland, NM 87417

Job No.

2-1000

Project Name:

Snyder Oil Corporation - Clayton 1E

**Project Location:** Sampled by:

C-3; Soil Farm West SA/CM

Date:

24-Oct-96 Time:

Analyzed by:

DC/HR

Date:

30-Oct-96

12:00

Sample Matrix:

Soil

#### Laboratory Analysis

Parameter		Result	Unit of Measure	Detection Limit	Unit of Measure
Gasoline Range Organics (C5 - C9)		<5.0	mg/kg	5.0	mg/kg
Diesel Range Organics (C10 - C28)		11.4	mg/kg	5.0	mg/kg
	TOTAL	11.4	mg/kg		

Quality Assurance Report

GRO QC No.:

0493-STD

DRO QC No.:

0489-STD

#### Calibration Check

Parameter	Method Blank	Unit of Measure	True Value	Analyzed Value	% Diff	Limit
Gasoline Range (C5 - C9)	<50	ppb	1,350	1,326	1.8	15%
Diesel Range (C10 - C28)	<5.0	ppm	100	101	1.4	15%

Matrix Snike

таст орт	<u> </u>				
Parameter	1- Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Gasoline Range (C5-C9)	107	103	(70-130)	3	20%
Diesel Range (C10-C28)	110	97	(70-130)	9	20%

Method - SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography

Approved by: Date:

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



