

3R - 355

REPORTS

DATE:

Aug. 1994

PIT CLOSURE PLAN

Santa Fe No. 1, Hospah Coal Company
SW/4 SW/4 Sec 9, T19N, R6W NMPM
Navajo Nation
McKinley County, New Mexico

Prepared For:

Navajo Nation (USEPA and NEPA)

Commissioned By

Santa Fe Pacific Gold Corporation
P.O. Box 27019
Albuquerque, New Mexico 87125

Project No. 94103

August 1994

Envirotech In.c
5796 US Hwy. 64-3014
Farmington, New Mexico 87401

AUGUST 1994

PROJECT 94103

**PIT CLOSURE PLAN
SANTA FE #1
SANTA FE PACIFIC GOLD CORP
SECTION 9 T19N., R6W., NMPM
MCKINLEY COUNTY, NEW MEXICO**

INTRODUCTION

Santa Fe Pacific Gold Corporation has retained Envirotech Inc. to develop a pit closure plan for the Santa Fe #1 well. The location of this well is the SE/4 SW/4 Section 9, T19N, R6W NMPM, McKinley County, New Mexico. This well was plugged and abandoned in November 1993. This closure plan is for the reclamation of hydrocarbon contaminated soil on the well pad area and in the previously unlined separator pit.

A limited site assessment was performed by Envirotech during January 1994 to define the extent of soil contamination. The findings of this assessment along with laboratory soil analysis are attached. Envirotech's January 20, 1994 cover letter to Mr. Gary Simpson of Santa Fe Pacific Gold presents results of that initial assessment. Additional soil borings and sampling of the separator pit have been performed by Santa Fe Pacific Gold to document the vertical extent of contamination in the separator pit area. The results of this pit investigation are attached under Envirotech's May 6, 1994 cover letter. Core sample results of the bedrock underlaying the separator pit are reported under Envirotech's August 31, 1994 cover letter contained in the appendix of this closure plan.

SUMMARY OF FINDINGS

The following conclusion were drawn from the January 1994 and March 1994 site assessments:

- (1) Hydrocarbon contamination of soil above current regulatory action levels is present in the area of the unlined earthen separator pit. This hydrocarbon contamination appears to have originated from the normal operation of the separator equipment on the location.
- (2) Hydrocarbon contamination on the surface of the well pad area appears to be limited to the well pad itself, involving a surface area of approximately 750 square feet. The average depth of contamination is approximately 2 feet. The origin of the hydrocarbons appears to be numerous small spills resulting from the normal production operation of the site.

- is
- (3) In the pit area, soil contamination extends from the pit bottom to a maximum depth of 8.5 feet. Competent sandstone bedrock underlays approximately 8 feet of alluvial fill at the site.
 - (4) Groundwater has not been impacted and no free product present. The depth to groundwater at this site is estimated to be greater than 100 feet based on nearby test wells.
 - (5) The distance to the nearest ephemeral stream \geq 10 feet wide is estimated to be $>$ 100 feet.
 - (6) This site is located $>$ 1000 feet from a water source or private domestic water source.
 - (7) The distance to the nearest surface water body is $>$ 1000 feet.
 - (8) Based on the site ranking score, the Recommended Remediation levels are:

Benzene (ppm)	10
BTEX (ppm)	50
TPH (ppm)	5000

REMEDIAL ACTION PLAN

Based on the previously cited information Santa Fe Pacific Gold, proposes to remediate the hydrocarbon contaminated soils by excavation with off site landfarm treatment of the soils. The pit closure plan will consist of the following tasks:

- (1) Removal of Contaminated Soils: Contaminated soils in the immediate area of the pit will be excavated using a backhoe. Excavation will be continued until all visible soil discoloration is removed and the field screening by Organic Vapor Meter (OVM) is below the action level of 100 ppm.
- (2) Treatment of Contaminated Soils: Offsite landfarming by transporting the removed contaminated soils to Envirotech's Soil Remediation Facility located at Hilltop, New Mexico. This facility is permitted and regulated by the NMOCD for landfarming treatment of E&P non-hazardous wastes. A copy of the NMOCD permit is attached in the appendix.
- (3) Field Assessment: To verify the remediation effort, field assessment will be provided by qualified and experienced environmental professionals. Field assessment will

include soil sampling and field screening of volatile organic vapors by the Field Headspace Method and testing for Total Petroleum Hydrocarbons (TPH) by USEPA Method 418.1.

A minimum of five soil samples will be collected from the pit walls and floor for confirmation that soil contamination has been removed. The well site pad area will be excavated to remove all visible surface contamination. Verification will be by OVM screening and with five point composite soil samples taken for laboratory confirmation of TPH by USEPA Method 418.1. One composite sample will be obtained for each approximate 200 sq. ft. of excavation area. QA/QC for the sampling will consist of a trip blank, spike matrix analysis and a duplicate sample for every 10 samples taken or fraction thereof. Samples will be transported to the analytical laboratory on ice.

- (4) Closure: Once the excavation, field assessment and removal of contaminated soil have been completed, closure of this site would consist of the following:
- (a) Recontouring the surface of the well site to provide drainage and prevent soil erosion, followed by revegetation during the next favorable time as recommended by the BLM.
 - (b) No further action will be taken for the remediation of the site and the pit and site will be classified as **CLOSED**.
 - (c) A closure report detailing the remediation and closure activities will be submitted to the USEPA, NEPA and NMOCD upon completion of the work.

LIMITATIONS AND CLOSURE

This pit closure plan has been developed using the findings of prior site assessments and the guidelines of the July 1993 BLM Unlined Pit Remediation & Closure Program for the Farmington and Albuquerque Districts.


All soil contamination is believed to be E & P wastes and to have originated from the normal operation of the separator equipment on the location. No hazardous wastes are believed to be present or involved with the subject contamination as defined per RCRA (40 CFR 261).

Full implementation of this plan will need the concurrent approval of the USEPA (BIA) and the BLM.

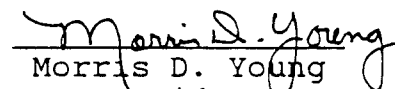
A Sundry Notice for the remediation/closure work is attached in the Appendix.

The pit closure plan has been developed for the exclusive use of Santa Fe Pacific Gold Corp. as it pertains to the Santa Fe # 1 well site located in Section 9, T19N, R6W, NMPM, McKinley County, New Mexico.

Respectfully Submitted
Envirotech Inc.


C. Jack Collins
Geologist

Review
Envirotech Inc.


Morris D. Young
President

ed, edited, and published by the Geological Survey

by USGS and USCGS

by photogrammetric methods from aerial
graphs taken 1958. Field checked 1961

mic projection. 1927 North American Datum

10 foot grid ticks based on New Mexico coordinate system, west zone

meter Universal Transverse Mercator grid ticks,

3, shown in blue

ed dashed lines indicate selected fence and field lines where
ly visible on aerial photographs. This information is unchecked

on the predicted North American datum 1983

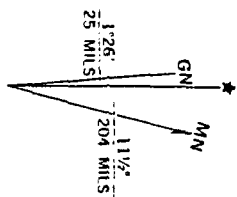
he projection lines 1 meter north and 54 meters

s shown by dashed corner ticks

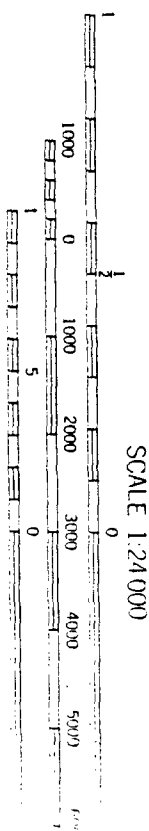
as shown in purple and woodland compiled from aerial
graphs taken 1981 and other sources. This information

checked Map edited 1980

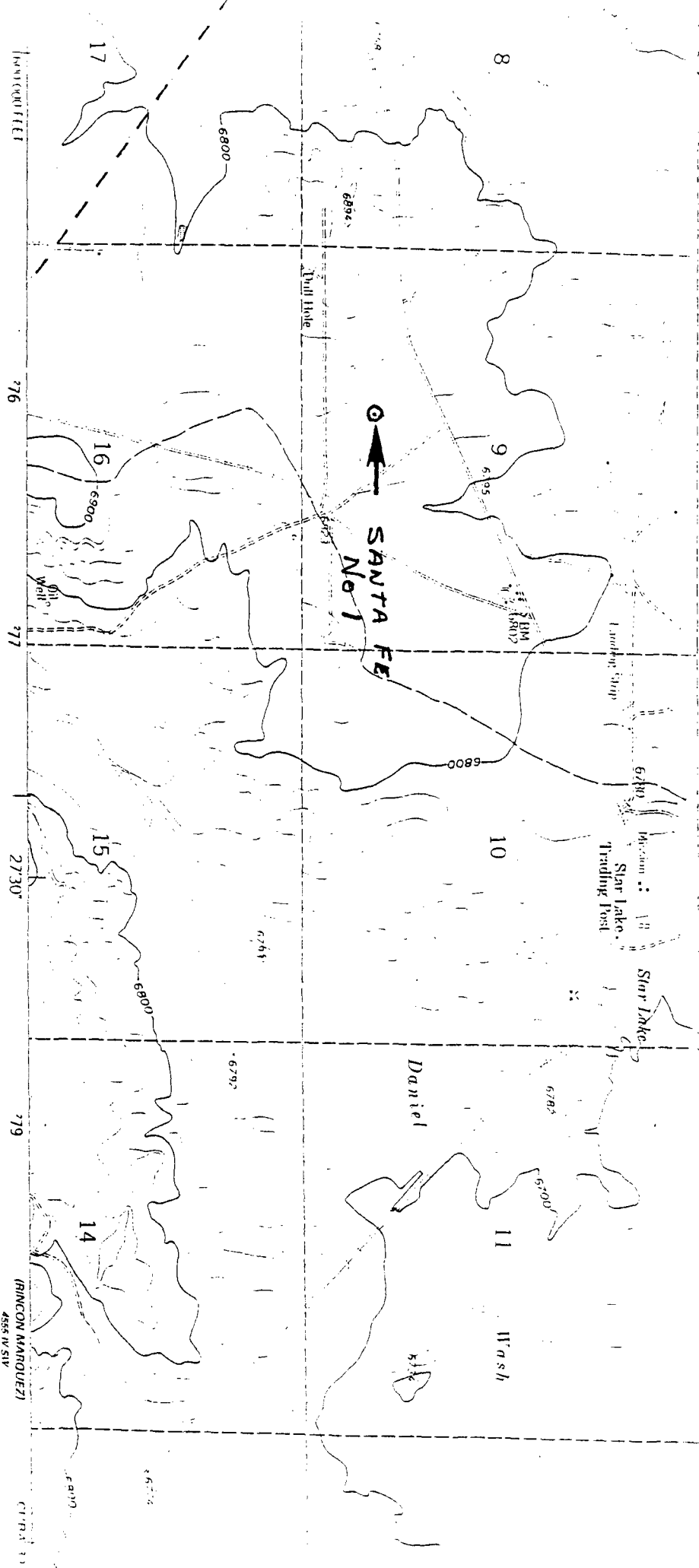
UTM GRID AND 1989 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET



CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC DATUM OF 1929



SCALE 1:24 000



STAR LAKE, N.M. 1989

THIS MAP COMPLETES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225 OR RES
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE

Submit 3 Copies
to Appropriate
District Office

Energy, Minerals and Natural Resources Department

Revised 1-1-89

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

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

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

WELL API NO.

5. Indicate Type of Lease
Navajo Nation STATE ☐ FEE ☐

6. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A
DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT"
(FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name

Hospah Coal Company

1. Type of Well:

OIL
WELL ☒

GAS
WELL ☐

OTHER

2. Name of Operator

Santa Fe Pacific Gold Corp.

8. Well No.

Santa Fe No. 1

3. Address of Operator

P.O. Box 27019, Albuquerque, New Mexico 87125 (505)880-5389

9. Pool name or Wildcat

C-15-25-EP

4. Well Location

Unit Letter _____ : _____ Feet From The _____ Line and _____ Feet From The _____ Line

Section SE/4 SW/4 Sec 9 Township 19N Range 6W NMPM McKinley County

10. Elevation (Show whether DF, RKB, RT, GR, etc.)

11.

Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

PERFORM REMEDIAL WORK ☐

PLUG AND ABANDON ☐

REMEDIAL WORK ☐

ALTERING CASING ☐

TEMPORARILY ABANDON ☐

CHANGE PLANS ☐

COMMENCE DRILLING OPNS. ☐

PLUG AND ABANDONMENT ☐

PULL OR ALTER CASING ☐

CASING TEST AND CEMENT JOB ☐

OTHER: Pit Closure ☒

OTHER: ☐

12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

Pit Closure - See Attached documentation

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE

TITLE

Field Supervisor

DATE

8/31/94

TYPE OR PRINT NAME

GARY Simpson

TELEPHONE NO.

505-880-5300

(This space for State Use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL IF ANY:

Hospah Coal Company

6200 Uptown Blvd. N.E., Suite 400
 Albuquerque, New Mexico 87110
 Box 27019
 Albuquerque, New Mexico 87125
 505/880-5300 Fax# 505/880-5435

January 11, 1994

Sadie Hoskie
 Office of the President and Vice President
 Navajo Nation
 Highway 264/Tribal Hill Drive
 Window Rock, AZ 86515

Dear Ms. Hoskie:

Hospah Coal Company owned the oil and gas rights to an oil well (Santa Fe #1) on Navajo surface rights in McKinley County (Section 9, T.19N., R.6W.). This well was plugged and abandoned in November 1993.

Pursuant to reclamation of the surface site, we will be conducting preliminary sampling and testing to determine the approximate areal and volumetric extent of contamination. The sampling will consist of small holes dug by a backhoe to extract samples that will be field and laboratory tested for TPH and soil OVC with spot checking for BTEX concentrations. The sample pits will be backfilled immediately after sampling.

A detailed reclamation plan will be forthcoming to your office once the approximate boundaries of the possible soil contamination has been determined.

This preliminary sampling program will begin January 18. Please contact me as soon as possible if you have any concerns or questions.

Sincerely,



Gary Simpson
 Field Supervisor

c: P. Eby
 T. Leftwich
 G. Wagner

Post-it Fax Note

7671

Date	8/15	# of pages	1
To	Jack Collins	From	Gary Simpson
Company	Enversted	Co.	Santa Fe
Phone #		Phone #	
Fax #	(505) 632-1865	Fax #	

ENVIROTECH INC.

UNDERGROUND TANK TESTING • SITE ASSESSMENT • SITE REMEDIATION

5796 U.S. HIGHWAY 64 - 3014
FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615

January 20, 1994

Mr. Gary Simpson
Santa Fe Pacific Gold Corporation
Box 27019
Albuquerque, NM 87125

RE: Lab Results
Santa Fe #1 Assessment

Project No: 94103


Dear Gary:

The attached Field Report and Table 1 summarize the field measurements and lab results for the January 18, 1994 site assessment at the Santa Fe #1 well site. Original copies of the lab results, QA/QC, and field reports will be forwarded to you by mail today.

Note that the remediation standards for soil are 100 ppm by OVM, 10,000 ppb for Benzene, 50,000 ppb for total BTEX, and anticipated to be 1000 ppm to 5000 ppm for total petroleum hydrocarbons (TPH).

Please contact me if you have any questions or need further information at (505) 632-0615. Thanks for your consideration on this project.

Respectfully submitted,
ENVIROTECH INC.


Michael K. Lane, P.E.
Geological Engineer

ATTACHMENTS: Table 1
 Field Report (1-18-94)

MKL/mkl

4103CVR.LTR

ENVIROTECH Inc.

5796 US HWY. 64, FARMINGTON, NM 87401
(505) 632-0615

PIT NO: _____

C.O.C. NO: _____

FIELD REPORT: SITE ASSESSMENT

JOB No. 94103
PAGE No: 1 of 1

PROJECT: PIT ASSESSMENT
CLIENT: SANTA FE PACIFIC GOLD
CONTRACTOR: ENVIROTECH, INC.
EQUIPMENT USED: CLIENT BACKHOE

DATE STARTED: 1/18/94
DATE FINISHED: "
ENVIRO. SPCLT: HKL
OPERATOR: _____
ASSISTANT: _____

LOCATION: LEASE: HOSPAN COAL CO. WELL: SANTA FE #1 OD: "N" SE-SW
SEC: 9 TWP: 19 N RNG: 6W PM: NM CNTY: HSK. ST. NM R-15-2SEF

LAND USE: RANGE

SURFACE CONDITIONS: WELL LOCATION SPACE VEG., PIT HAS WATER & PARAFFIN

PIT CENTER IS LOCATED APPROXIMATELY 35 FEET EAST OF WELLHEAD.

FIELD 418.1 CALCULATIONS

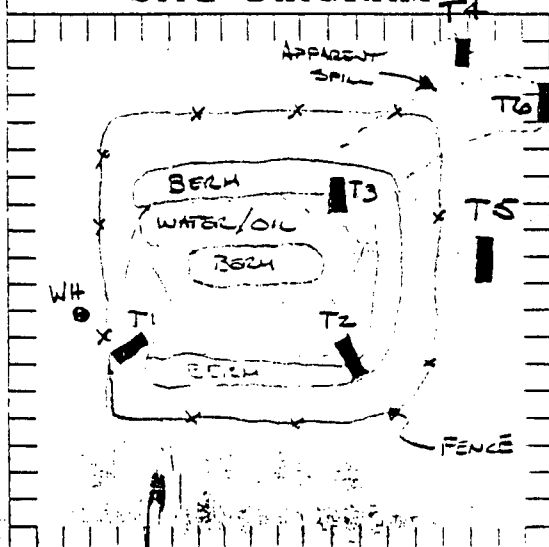
SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm

DEPTH TO GROUNDWATER: _____
NEAREST WATER SOURCE TYPE: _____
NEAREST SURFACE WATER: _____
NMDD RANKING SCORE: _____
NMDD TR CLOSURE STD: _____

SAMPLE INVENTORY		
SMPL ID	SMPL TYPE	LABORATORY ANALYSIS

SCALE
0 10 20 FEET

SITE DIAGRAM



TH#	1	2	3	4
SOIL TYPE	SMPL OVM/TYPE: TYPE: TPL	SMPL OVM/TYPE: TYPE: TPL	SMPL OVM/TYPE: TYPE: TPL	SMPL OVM/TYPE: TYPE: TPL
1	PIT BOTTOM	PIT BOTTOM	PIT BOTTOM	SH/L
2	SH/DK YB	LIQUID/SLT	MY/DK BROWN	MED. BROWN
3	1.3	1.3	1.3	2.8
4	LT. YELLOW BROWN	LYB	LYB	3.5
5	SH/CL	1.3	1.3	TD-4'
6	1.9	1.3	0.8	
	SS BED ROCK			
	TD-6'	TD-6.5'	TD-7'	
TH#	5	6		
SOIL TYPE	SMPL OVM/TYPE: TYPE: TPL	SMPL OVM/TYPE: TYPE: TPL		
1	SH/L	SH/DK BROWN		
2	BEW TO YB	2.8		
3	1.9	1.9		
4	2.8	TD-3.5'		
	TD-4'			

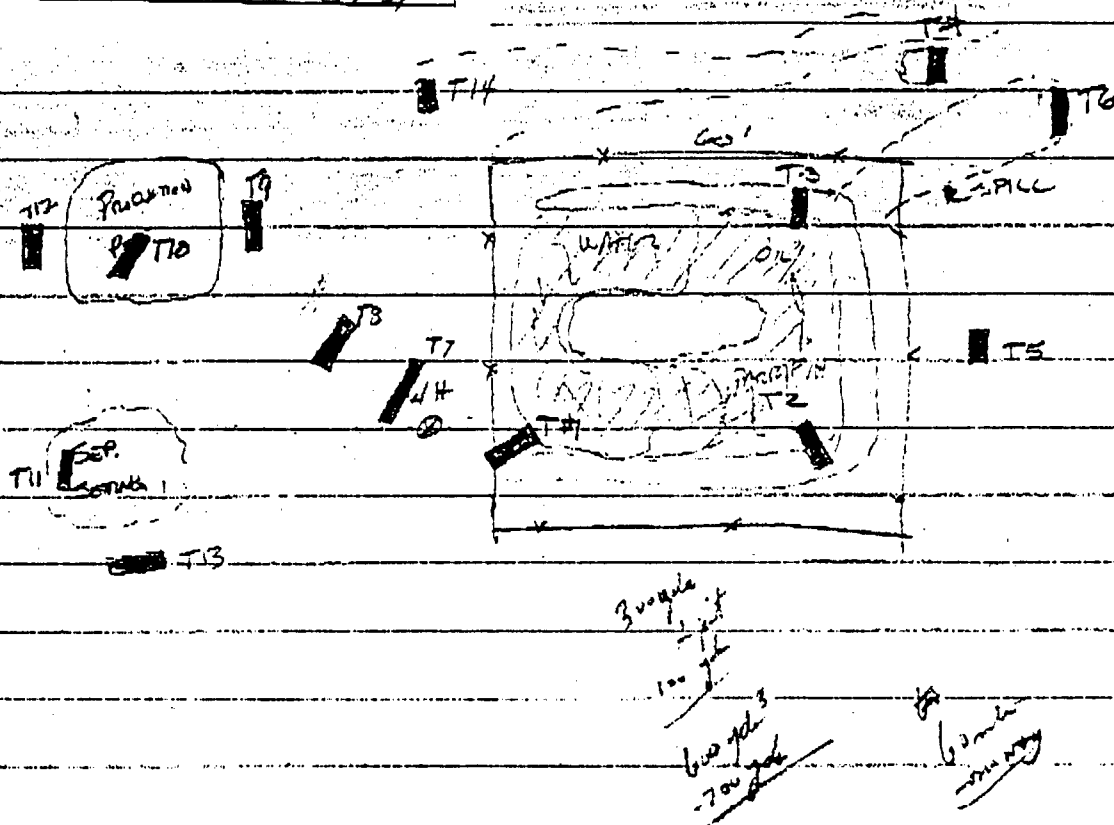
SOIL TYPES: C - Clay, S - Sand, G - Gravel, P - Peat, M - Muck, L - Lignite, H - Humus, F - Fossil, O - Organic, I - Inorganic, A - Ash, C - Coal, S - Sand, G - Gravel, P - Peat, M - Muck, L - Lignite, H - Humus, F - Fossil, O - Organic, I - Inorganic, A - Ash, C - Coal

SCHIZ
10'

10'

NN

Post-It Fax Note 7671		Date 8/31/94	# of pages 1
To Envirotech, Inc.	From Larry Simpson		
Co/Dex Jack Collins	Co. SFPG		
Phone #	Phone # 505-870-5389		
Fax # 505-632-1865	Fax # 505-870-5437		



KOSPAH COAL COMPANY

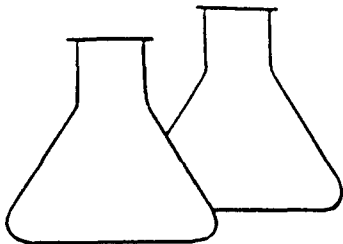
SANTA FE #1

"M" SE-SW SEC 9, T19N, R6W

MCKINLEY, New Mex. C-15-2587

Table 1
Assessment Summary
Hospah Coal Company Well: Santa Fe #1
January 18, 1994

SAMPLE	OVM (ppm)	BENZENE (ppb)	TOLUENE (ppb)	E-BENZ. (ppb)	XYLENES (ppb)	TPH (ppm)
T1@3'	1.3	419	215	45.1	1198	252
T1@6'	1.9	ND	ND	ND	71.3	ND
T2@4'	1.3	ND	ND	ND	69.1	ND
T3@4'	1.3	ND	179	ND	180.1	16.4
T4@3'	0.8	ND	52	ND	ND	47.9
T6@1.5'	0.8	ND	58	ND	ND	600
T6@3'	1.9	ND	59	ND	ND	23.1
T7@3'	0.8					
T7@4'	13.7	ND	88	ND	442	820
T8@2'	3.6					
T8@3'	20.4	ND	ND	ND	ND	1010
T9@3'	0.8					
T10@1'	2.8					
T10@6.5	505	ND	390	2210	16600	7500
T11@2'	2.9					
T11@4'	5.8	ND	46.5	ND	ND	80
T12@2'	3.0					
T12@5'	1.2					
T13@6"	0.2	ND	44.7	ND	ND	68
T13@3'	1.3					
T14@2'	1.2					
T14@3.5	14.8	ND	117	15.3	201.5	391



ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	Santa Fe Pacific Gold	Project #:	94103
Sample ID:	T 1 @ 3'	Date Reported:	01-19-94
Laboratory Number:	6743	Date Sampled:	01-18-94
Sample Matrix:	Soil	Date Received:	01-18-94
Preservative:	Cool	Date Extracted:	01-19-94
Condition:	Cool & Intact	Date Analyzed:	01-19-94
		Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	419	39.3
Toluene	215	79
Ethylbenzene	45.1	39.3
p,m-Xylene	910	59
o-Xylene	288	39.3

SURROGATE RECOVERIES:	Parameter	Percent Recovery
	Trifluorotoluene	99 %
	Bromofluorobenzene	100 %

Method: Method 5030, Purge-and-Trap, Test Methods for
Evaluating Solid Waste, SW-846, USEPA, July 1992

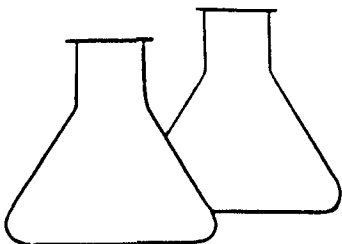
Method 8020, Aromatic Volatile Organics, Test Methods
for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

ND - Parameter not detected at the stated detection limit.

Comments: Santa Fe #1

Kevin L. Jensen
Analyst

Maris D. Young
Review



ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401

PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Santa Fe Pacific Gold	Project #:	94103
Sample ID:	T1 @ 3'	Date Sampled:	01-18-94
Laboratory Number:	6743	Date Received:	01-18-94
Sample Matrix:	Soil	Date Analyzed:	01-19-94
Preservative:	Cool	Date Reported:	01-19-94
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
-----	-----	-----
Total Petroleum Hydrocarbons	252	10.0

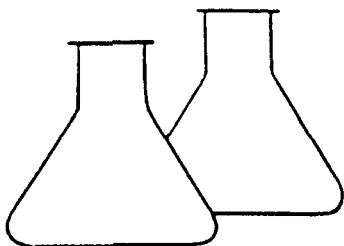
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

Comments: Santa Fe #1

Tony Tistas
Analyst

Marion D. Young
Review



ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	Santa Fe Pacific Gold	Project #:	94103
Sample ID:	T 1 @ 6'	Date Reported:	01-19-94
Laboratory Number:	6744	Date Sampled:	01-18-94
Sample Matrix:	Soil	Date Received:	01-18-94
Preservative:	Cool	Date Extracted:	01-19-94
Condition:	Cool & Intact	Date Analyzed:	01-19-94
		Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	13.0
Toluene	ND	26.1
Ethylbenzene	ND	13.0
p,m-Xylene	58	19.6
o-Xylene	13.3	13.0

SURROGATE RECOVERIES:	Parameter	Percent Recovery
	Trifluorotoluene	98 %
	Bromofluorobenzene	93 %

Method: Method 5030, Purge-and-Trap, Test Methods for
Evaluating Solid Waste, SW-846, USEPA, July 1992

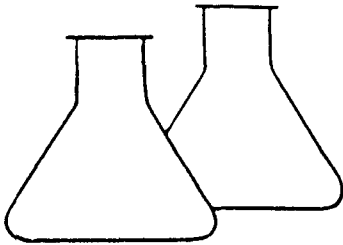
Method 8020, Aromatic Volatile Organics, Test Methods
for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

ND - Parameter not detected at the stated detection limit.

Comments: Santa Fe #1

Devin L. Grew
Analyst

Maris D. Young
Review



ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Santa Fe Pacific Gold	Project #:	94103
Sample ID:	T1 @ 6'	Date Sampled:	01-18-94
Laboratory Number:	6744	Date Received:	01-18-94
Sample Matrix:	Soil	Date Analyzed:	01-19-94
Preservative:	Cool	Date Reported:	01-19-94
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter -----	Concentration (mg/kg) -----	Det. Limit (mg/kg) -----
Total Petroleum Hydrocarbons	ND	10.0

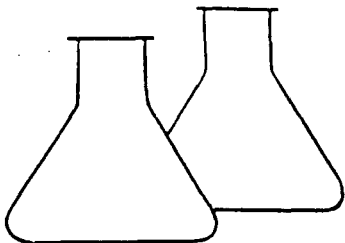
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

Comments: Santa Fe #1

Tony Tistano
Analyst

Margaret Young
Review



ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	Santa Fe Pacific Gold	Project #:	94103
Sample ID:	T 2 @ 4'	Date Reported:	01-19-94
Laboratory Number:	6745	Date Sampled:	01-18-94
Sample Matrix:	Soil	Date Received:	01-18-94
Preservative:	Cool	Date Extracted:	01-19-94
Condition:	Cool & Intact	Date Analyzed:	01-19-94
		Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	13.0
Toluene	ND	26.0
Ethylbenzene	ND	13.0
p,m-Xylene	55	19.5
o-Xylene	14.1	13.0

SURROGATE RECOVERIES:	Parameter	Percent Recovery
	Trifluorotoluene	97 %
	Bromofluorobenzene	94 %

Method: Method 5030, Purge-and-Trap, Test Methods for
Evaluating Solid Waste, SW-846, USEPA, July 1992

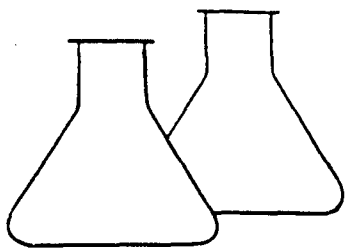
Method 8020, Aromatic Volatile Organics, Test Methods
for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

ND - Parameter not detected at the stated detection limit.

Comments: Santa Fe #1

Kevin L. Jensen
Analyst

Marvin D. Young
Review



ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Santa Fe Pacific Gold	Project #:	94103
Sample ID:	T2 @ 4'	Date Sampled:	01-18-94
Laboratory Number:	6745	Date Received:	01-18-94
Sample Matrix:	Soil	Date Analyzed:	01-19-94
Preservative:	Cool	Date Reported:	01-19-94
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
-----	-----	-----
Total Petroleum Hydrocarbons	ND	10.0

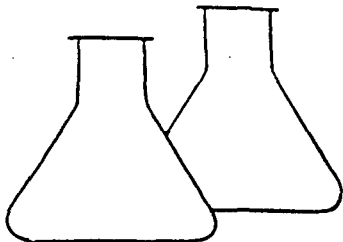
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total
Recoverable, Chemical Analysis of Water and
Waste, USEPA Storet No.4551, 1978

Comments: Santa Fe #1

Tony Tistano
Analyst

Morris D. Young
Review



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EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	Santa Fe Pacific Gold	Project #:	94103
Sample ID:	T 3 @ 4'	Date Reported:	01-19-94
Laboratory Number:	6746	Date Sampled:	01-18-94
Sample Matrix:	Soil	Date Received:	01-18-94
Preservative:	Cool	Date Extracted:	01-19-94
Condition:	Cool & Intact	Date Analyzed:	01-19-94
		Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	13.1
Toluene	179	26.2
Ethylbenzene	ND	13.1
p,m-Xylene	155	19.6
o-Xylene	25.1	13.1

SURROGATE RECOVERIES:	Parameter	Percent Recovery
	Trifluorotoluene	95 %
	Bromofluorobenzene	98 %

Method: Method 5030, Purge-and-Trap, Test Methods for
Evaluating Solid Waste, SW-846, USEPA, July 1992

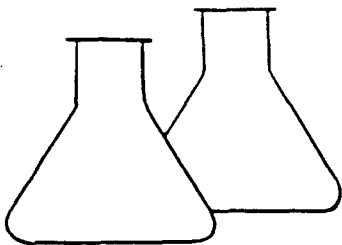
Method 8020, Aromatic Volatile Organics, Test Methods
for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

ND - Parameter not detected at the stated detection limit.

Comments: Santa Fe #1

Devin L. Cramer
Analyst

Margaret D. Young
Review



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EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Santa Fe Pacific Gold	Project #:	94103
Sample ID:	T3 @ 4'	Date Sampled:	01-18-94
Laboratory Number:	6746	Date Received:	01-18-94
Sample Matrix:	Soil	Date Analyzed:	01-19-94
Preservative:	Cool	Date Reported:	01-19-94
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
-----	-----	-----
Total Petroleum Hydrocarbons	16.4	10.0

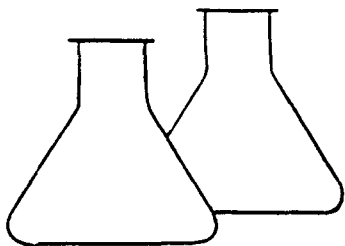
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total
Recoverable, Chemical Analysis of Water and
Waste, USEPA Storet No.4551, 1978

Comments: Santa Fe #1

Tony Tristano
Analyst

Morris D. Young
Review



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EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	Santa Fe Pacific Gold	Project #:	94103
Sample ID:	T 4 @ 3'	Date Reported:	01-20-94
Laboratory Number:	6747	Date Sampled:	01-18-94
Sample Matrix:	Soil	Date Received:	01-18-94
Preservative:	Cool	Date Extracted:	01-19-94
Condition:	Cool & Intact	Date Analyzed:	01-19-94
		Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	13.1
Toluene	52	26.3
Ethylbenzene	ND	13.1
p,m-Xylene	ND	19.7
o-Xylene	ND	13.1

SURROGATE RECOVERIES:	Parameter	Percent Recovery
	Trifluorotoluene	100 %
	Bromofluorobenzene	98 %

Method: Method 5030, Purge-and-Trap, Test Methods for
Evaluating Solid Waste, SW-846, USEPA, July 1992

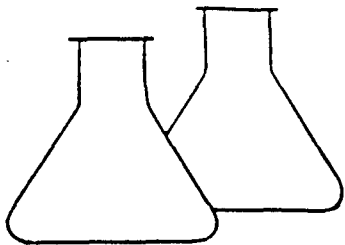
Method 8020, Aromatic Volatile Organics, Test Methods
for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

ND - Parameter not detected at the stated detection limit.

Comments: Santa Fe #1

Devin L. Jensen
Analyst

Marion D. Young
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EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Santa Fe Pacific Gold	Project #:	94103
Sample ID:	T4 @ 3'	Date Sampled:	01-18-94
Laboratory Number:	6747	Date Received:	01-18-94
Sample Matrix:	Soil	Date Analyzed:	01-19-94
Preservative:	Cool	Date Reported:	01-19-94
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
-----	-----	-----
Total Petroleum Hydrocarbons	47.9	10.0

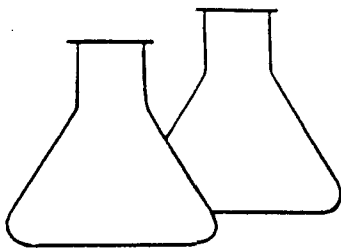
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total
Recoverable, Chemical Analysis of Water and
Waste, USEPA Storet No.4551, 1978

Comments: Santa Fe #1

Tony Tutors
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EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	Santa Fe Pacific Gold	Project #:	94103
Sample ID:	T 6 @ 1.5'	Date Reported:	01-20-94
Laboratory Number:	6748	Date Sampled:	01-18-94
Sample Matrix:	Soil	Date Received:	01-18-94
Preservative:	Cool	Date Extracted:	01-19-94
Condition:	Cool & Intact	Date Analyzed:	01-19-94
		Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	13.1
Toluene	58	26.1
Ethylbenzene	ND	13.1
p,m-Xylene	ND	19.6
o-Xylene	ND	13.1

SURROGATE RECOVERIES:	Parameter	Percent Recovery
	Trifluorotoluene	98 %
	Bromofluorobenzene	98 %

Method: Method 5030, Purge-and-Trap, Test Methods for
Evaluating Solid Waste, SW-846, USEPA, July 1992

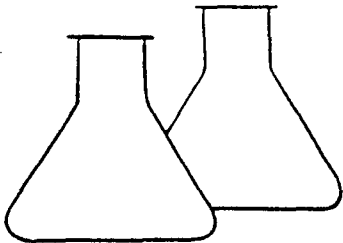
Method 8020, Aromatic Volatile Organics, Test Methods
for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

ND - Parameter not detected at the stated detection limit.

Comments: Santa Fe #1

David L. Jensen
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EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Santa Fe Pacific Gold	Project #:	94103
Sample ID:	T6 @ 1.5'	Date Sampled:	01-18-94
Laboratory Number:	6748	Date Received:	01-18-94
Sample Matrix:	Soil	Date Analyzed:	01-19-94
Preservative:	Cool	Date Reported:	01-19-94
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
-----	-----	-----
Total Petroleum Hydrocarbons	600	10.0

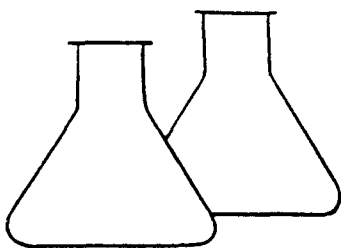
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total
Recoverable, Chemical Analysis of Water and
Waste, USEPA Storet No.4551, 1978

Comments: Santa Fe #1

Tony Tustan
Analyst

Maria D. Young
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EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	Santa Fe Pacific Gold	Project #:	94103
Sample ID:	T 6 @ 3'	Date Reported:	01-20-94
Laboratory Number:	6749	Date Sampled:	01-18-94
Sample Matrix:	Soil	Date Received:	01-18-94
Preservative:	Cool	Date Extracted:	01-19-94
Condition:	Cool & Intact	Date Analyzed:	01-19-94
		Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	13.2
Toluene	59	26.5
Ethylbenzene	ND	13.2
p,m-Xylene	ND	19.8
o-Xylene	ND	13.2

SURROGATE RECOVERIES:	Parameter	Percent Recovery
	Trifluorotoluene	97 %
	Bromofluorobenzene	99 %

Method: Method 5030, Purge-and-Trap, Test Methods for
Evaluating Solid Waste, SW-346, USEPA, July 1992

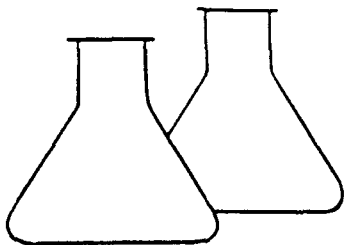
Method 8020, Aromatic Volatile Organics, Test Methods
for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

ND - Parameter not detected at the stated detection limit.

Comments: Santa Fe #1

Kevin L. Cramer
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Marion D. Young
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EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Santa Fe Pacific Gold	Project #:	94103
Sample ID:	T6 @ 3'	Date Sampled:	01-18-94
Laboratory Number:	6749	Date Received:	01-18-94
Sample Matrix:	Soil	Date Analyzed:	01-19-94
Preservative:	Cool	Date Reported:	01-19-94
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
-----	-----	-----
Total Petroleum Hydrocarbons	23.1	10.0

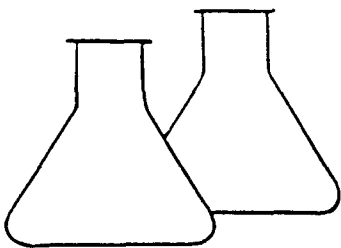
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N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total
Recoverable, Chemical Analysis of Water and
Waste, USEPA Storet No.4551, 1978

Comments: Santa Fe #1

Tony Tristano
Analyst

Mavis D. Young
Review



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EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	Santa Fe Pacific Gold	Project #:	94103
Sample ID:	T 7 @ 4'	Date Reported:	01-20-94
Laboratory Number:	6750	Date Sampled:	01-18-94
Sample Matrix:	Soil	Date Received:	01-18-94
Preservative:	Cool	Date Extracted:	01-19-94
Condition:	Cool & Intact	Date Analyzed:	01-19-94
		Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
-----	-----	-----
Benzene	ND	40.0
Toluene	88	80
Ethylbenzene	ND	40.0
p,m-Xylene	264	60
o-Xylene	178	40.0

SURROGATE RECOVERIES:	Parameter	Percent Recovery
	-----	-----
	Trifluorotoluene	96 %
	Bromofluorobenzene	100 %

Method: Method 5030, Purge-and-Trap, Test Methods for
Evaluating Solid Waste, SW-846, USEPA, July 1992

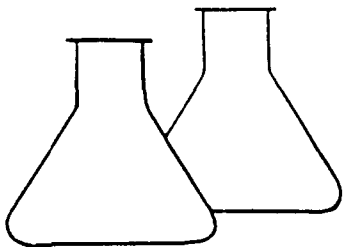
Method 8020, Aromatic Volatile Organics, Test Methods
for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

ND - Parameter not detected at the stated detection limit.

Comments: Santa Fe #1

Kevin L. Pender
Analyst

Maris S. Young
Review



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EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Santa Fe Pacific Gold	Project #:	94103
Sample ID:	T7 @ 4'	Date Sampled:	01-18-94
Laboratory Number:	6750	Date Received:	01-18-94
Sample Matrix:	Soil	Date Analyzed:	01-19-94
Preservative:	Cool	Date Reported:	01-19-94
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
-----	-----	-----
Total Petroleum Hydrocarbons	820	10.0

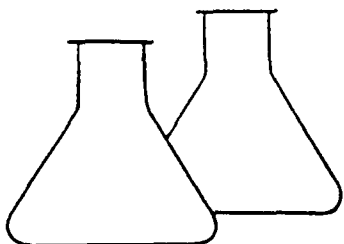
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total
Recoverable, Chemical Analysis of Water and
Waste, USEPA Storet No.4551, 1978

Comments: Santa Fe #1

Tony Tristano
Analyst

Maris D. Young
Review



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EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	Santa Fe Pacific Gold	Project #:	94103
Sample ID:	T 8 @ 3'	Date Reported:	01-20-94
Laboratory Number:	6751	Date Sampled:	01-18-94
Sample Matrix:	Soil	Date Received:	01-18-94
Preservative:	Cool	Date Extracted:	01-19-94
Condition:	Cool & Intact	Date Analyzed:	01-19-94
		Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	38.8
Toluene	ND	78
Ethylbenzene	ND	38.8
p,m-Xylene	ND	58
o-Xylene	ND	38.8

SURROGATE RECOVERIES:	Parameter	Percent Recovery
	Trifluorotoluene	98 %
	Bromofluorobenzene	96 %

Method: Method 5030, Purge-and-Trap, Test Methods for
Evaluating Solid Waste, SW-846, USEPA, July 1992

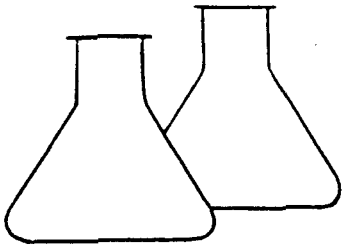
Method 8020, Aromatic Volatile Organics, Test Methods
for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

ND - Parameter not detected at the stated detection limit.

Comments: Santa Fe #1

Kevin L. Brewer
Analyst

Maria D. Young
Review



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EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Santa Fe Pacific Gold	Project #:	94103
Sample ID:	T8 @ 3'	Date Sampled:	01-18-94
Laboratory Number:	6751	Date Received:	01-18-94
Sample Matrix:	Soil	Date Analyzed:	01-19-94
Preservative:	Cool	Date Reported:	01-19-94
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter -----	Concentration (mg/kg) -----	Det. Limit (mg/kg) -----
Total Petroleum Hydrocarbons	1,010	10.0

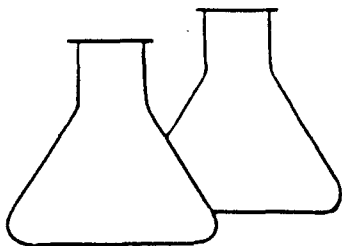
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

Comments: Santa Fe #1

Tony Tistas
Analyst

Morgan D. Young
Review



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EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	Santa Fe Pacific Gold	Project #:	94103
Sample ID:	T 10 @ 6.5'	Date Reported:	01-20-94
Laboratory Number:	6752	Date Sampled:	01-18-94
Sample Matrix:	Soil	Date Received:	01-18-94
Preservative:	Cool	Date Extracted:	01-19-94
Condition:	Cool & Intact	Date Analyzed:	01-19-94
		Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	39.1
Toluene	390	78
Ethylbenzene	2,210	39.1
p,m-Xylene	9,100	59
o-Xylene	7,500	39.1

SURROGATE RECOVERIES:	Parameter	Percent Recovery
	Trifluorotoluene	93 %
	Bromofluorobenzene	100 %

Method: Method 5030, Purge-and-Trap, Test Methods for
Evaluating Solid Waste, SW-846, USEPA, July 1992

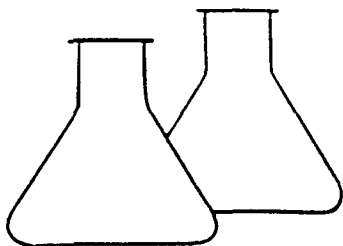
Method 8020, Aromatic Volatile Organics, Test Methods
for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

ND - Parameter not detected at the stated detection limit.

Comments: Santa Fe #1

Kevin L. Grew
Analyst

Morris D. Young
Review



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EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Santa Fe Pacific Gold	Project #:	94103
Sample ID:	T10 @ 6.5'	Date Sampled:	01-18-94
Laboratory Number:	6752	Date Received:	01-18-94
Sample Matrix:	Soil	Date Analyzed:	01-19-94
Preservative:	Cool	Date Reported:	01-19-94
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter -----	Concentration (mg/kg) -----	Det. Limit (mg/kg) -----
Total Petroleum Hydrocarbons	7,500	100

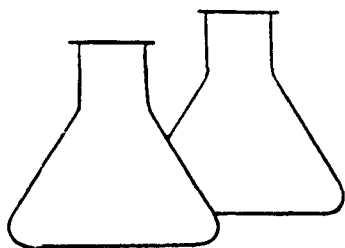
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

Comments: Santa Fe #1

Tony Tistas
Analyst

Maria D. Young
Review



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EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	Santa Fe Pacific Gold	Project #:	94103
Sample ID:	T 11 @ 4'	Date Reported:	01-20-94
Laboratory Number:	6753	Date Sampled:	01-18-94
Sample Matrix:	Soil	Date Received:	01-18-94
Preservative:	Cool	Date Extracted:	01-19-94
Condition:	Cool & Intact	Date Analyzed:	01-19-94
		Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	13.1
Toluene	46.5	26.2
Ethylbenzene	ND	13.1
p,m-Xylene	ND	19.6
o-Xylene	ND	13.1

SURROGATE RECOVERIES:	Parameter	Percent Recovery
	Trifluorotoluene	95 %
	Bromofluorobenzene	95 %

Method: Method 5030, Purge-and-Trap, Test Methods for
Evaluating Solid Waste, SW-846, USEPA, July 1992

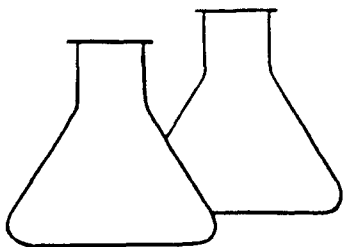
Method 8020, Aromatic Volatile Organics, Test Methods
for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

ND - Parameter not detected at the stated detection limit.

Comments: Santa Fe #1

Kevin L. Grewer
Analyst

Marisa Young
Review



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EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Santa Fe Pacific Gold	Project #:	94103
Sample ID:	T11 @ 4'	Date Sampled:	01-18-94
Laboratory Number:	6753	Date Received:	01-18-94
Sample Matrix:	Soil	Date Analyzed:	01-19-94
Preservative:	Cool	Date Reported:	01-19-94
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
-----	-----	-----
Total Petroleum Hydrocarbons	80	10.0

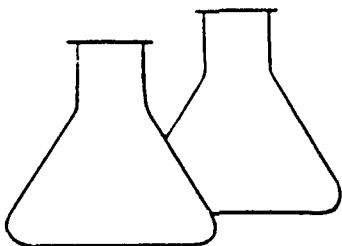
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

Comments: Santa Fe #1

Tony Tustin
Analyst

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Review



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EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	Santa Fe Pacific Gold	Project #:	94103
Sample ID:	T 13 @ 6"	Date Reported:	01-20-94
Laboratory Number:	6754	Date Sampled:	01-18-94
Sample Matrix:	Soil	Date Received:	01-18-94
Preservative:	Cool	Date Extracted:	01-19-94
Condition:	Cool & Intact	Date Analyzed:	01-19-94
		Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	13.2
Toluene	44.7	26.4
Ethylbenzene	ND	13.2
p,m-Xylene	ND	19.8
o-Xylene	ND	13.2

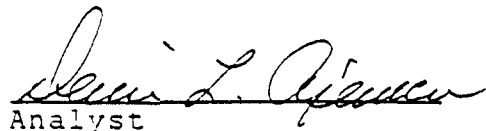
SURROGATE RECOVERIES:	Parameter	Percent Recovery
	Trifluorotoluene	95 %
	Bromofluorobenzene	94 %

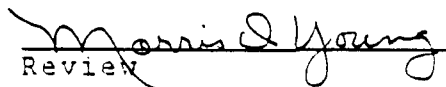
Method: Method 5030, Purge-and-Trap, Test Methods for
Evaluating Solid Waste, SW-846, USEPA, July 1992

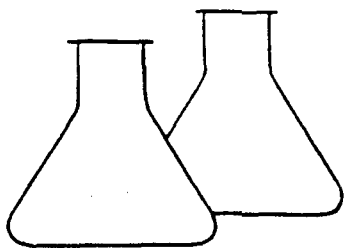
Method 8020, Aromatic Volatile Organics, Test Methods
for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

ND - Parameter not detected at the stated detection limit.

Comments: Santa Fe #1


Analyst


Review



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PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Santa Fe Pacific Gold	Project #:	94103
Sample ID:	T13 @ 6"	Date Sampled:	01-18-94
Laboratory Number:	6754	Date Received:	01-18-94
Sample Matrix:	Soil	Date Analyzed:	01-19-94
Preservative:	Cool	Date Reported:	01-19-94
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
-----	-----	-----
Total Petroleum Hydrocarbons	68	10.0

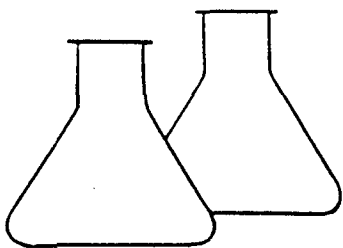
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total
Recoverable, Chemical Analysis of Water and
Waste, USEPA Storet No.4551, 1978

Comments: Santa Fe #1

Tony Tista
Analyst

Monis D. Young
Review



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EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	Santa Fe Pacific Gold	Project #:	94103
Sample ID:	T 14 @ 3.5'	Date Reported:	01-20-94
Laboratory Number:	6755	Date Sampled:	01-13-94
Sample Matrix:	Soil	Date Received:	01-13-94
Preservative:	Cool	Date Extracted:	01-19-94
Condition:	Cool & Intact	Date Analyzed:	01-19-94
		Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	13.1
Toluene	117	26.2
Ethylbenzene	15.3	13.1
p,m-Xylene	159	19.7
o-Xylene	42.5	13.1

SURROGATE RECOVERIES:	Parameter	Percent Recovery
	Trifluorotoluene	99 %
	Bromofluorobenzene	100 %

Method: Method 5030, Purge-and-Trap, Test Methods for
Evaluating Solid Waste, SW-846, USEPA, July 1992

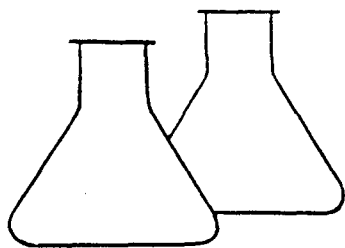
Method 8020, Aromatic Volatile Organics, Test Methods
for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

ND - Parameter not detected at the stated detection limit.

Comments: Santa Fe #1

Dennis L. Spencer
Analyst

Morris D. Young
Review



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PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Santa Fe Pacific Gold	Project #:	94103
Sample ID:	Tl4 @ 3.5'	Date Sampled:	01-18-94
Laboratory Number:	6755	Date Received:	01-18-94
Sample Matrix:	Soil	Date Analyzed:	01-19-94
Preservative:	Cool	Date Reported:	01-19-94
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
-----	-----	-----
Total Petroleum Hydrocarbons	391	10.0

ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total
Recoverable, Chemical Analysis of Water and
Waste, USEPA Storet No.4551, 1978

Comments: Santa Fe #1

Tony Tristano
Analyst

Maris D. Young
Review

ENVIROTECH INC.

UNDERGROUND TANK TESTING • SITE ASSESSMENT • SITE REMEDIATION

5796 U.S. HIGHWAY 64 - 3014
FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615

May 6, 1994

Mr. Gary Simpson
Santa Fe Pacific Gold Corporation
Box 27019
Albuquerque, New Mexico 87125

Re: Laboratory Analysis
Santa Fe #1 Well Site

Project No. Q4103

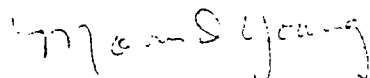
Dear Mr. Simpson,

Attached please find the Laboratory Analysis Report for the four (4) samples submitted for USEPA method 418.1 Total Petroleum Hydrocarbon Analysis on March 2, 1994 by Santa Fe Pacific Gold.

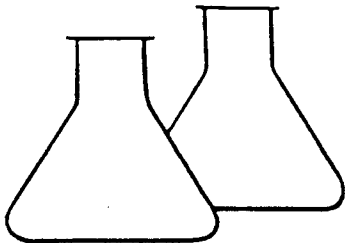
As per the Chain of Custody Record, these samples were sampled by Gary Simpson and analyzed by Tony Tristano. We apologize for the delay in providing these Analysis Certificates.

If we can provide any additional information or in any way be helpful, please contact us at 505-632-0615.

Sincerely,



Morris D. Young
President
MDY502



ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Santa Fe Pacific Gold	Project #:	04103
Sample ID:	#2 6-8	Date Sampled:	Unknown
Laboratory Number:	6944	Date Received:	03-02-94
Sample Matrix:	Soil	Date Analyzed:	03-09-94
Preservative:	Cool	Date Reported:	03-09-94
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
-----	-----	-----
Total Petroleum Hydrocarbons	440	10.0

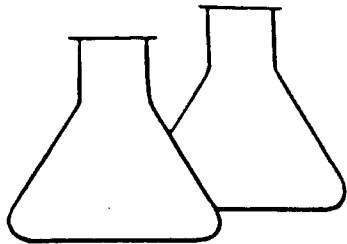
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

Comments: Santa Fe #1
Samples received w/ headspace & in plastic bottles
w/ foil closures at ambient temperature.

Tony Tistano
Analyst

Maris D. Young
Review



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PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Santa Fe Pacific Gold	Project #:	04103
Sample ID:	#2 8-10	Date Sampled:	Unknown
Laboratory Number:	6945	Date Received:	03-02-94
Sample Matrix:	Soil	Date Analyzed:	03-09-94
Preservative:	Cool	Date Reported:	03-09-94
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
-----	-----	-----
Total Petroleum Hydrocarbons	166	10.0

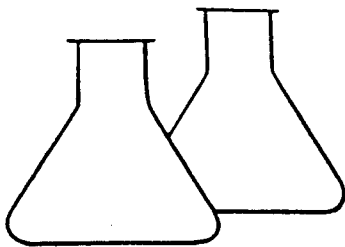
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total
Recoverable, Chemical Analysis of Water and
Waste, USEPA Storet No.4551, 1978

Comments: Santa Fe #1
Samples received w/ headspace & in plastic bottles
w/ foil closures at ambient temperature.

Tony Triestino
Analyst

Maris D. Young
Review



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PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Santa Fe Pacific Gold	Project #:	04103
Sample ID:	#3 4-6	Date Sampled:	Unknown
Laboratory Number:	6946	Date Received:	03-02-94
Sample Matrix:	Soil	Date Analyzed:	03-09-94
Preservative:	Cool	Date Reported:	03-09-94
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
-----	-----	-----
Total Petroleum Hydrocarbons	3,110	100

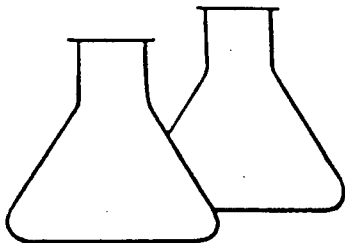
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total
Recoverable, Chemical Analysis of Water and
Waste, USEPA Storet No.4551, 1978

Comments: Santa Fe #1
Samples received w/ headspace & in plastic bottles
w/ foil closures at ambient temperature.

Tony Tustano
Analyst

Merrin D. Young
Review



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PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Santa Fe Pacific Gold	Project #:	04103
Sample ID:	#3 6-8	Date Sampled:	Unknown
Laboratory Number:	6947	Date Received:	03-02-94
Sample Matrix:	Soil	Date Analyzed:	03-09-94
Preservative:	Cool	Date Reported:	03-09-94
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
-----	-----	-----
Total Petroleum Hydrocarbons	7,500	100

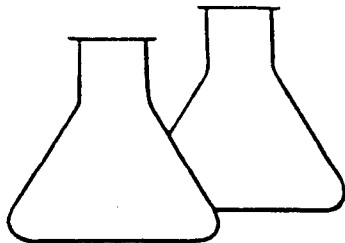
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total
Recoverable, Chemical Analysis of Water and
Waste, USEPA Storet No.4551, 1978

Comments: Santa Fe #1
Samples received w/ headspace & in plastic bottles
w/ foil closures at ambient temperature.

Tony Tristano
Analyst

Marvin D. Young
Review



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PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	N/A	Project #:	N/A
Sample ID:	Laboratory Blank	Date Sampled:	N/A
Laboratory Number:	TPSB0309	Date Received:	N/A
Sample Matrix:	Soil	Date Analyzed:	03-09-94
Preservative:	N/A	Date Reported:	03-09-94
Condition:	N/A	Analysis Needed:	TPH

Parameter -----	Concentration (mg/kg) -----	Det. Limit (mg/kg) -----
Total Petroleum Hydrocarbons	ND	10.0

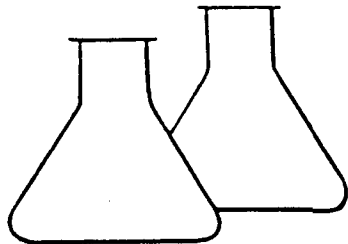
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total
Recoverable, Chemical Analysis of Water and
Waste, USEPA Storet No.4551, 1978

Comments:

Tony Tristano
Analyst

Marisa Young
Review



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PHONE: (505) 632-0615 • FAX: (505) 632-1865

** QUALITY ASSURANCE REPORT MATRIX SPIKE - TOTAL PETROLEUM HYDROCARBONS

Client:	N/A	Project #:	N/A
Sample ID:	Laboratory Spike	Date Sampled:	N/A
Laboratory Number:	TPSS0309	Date Received:	N/A
Sample Matrix:	Soil	Date Analyzed:	03-09-94
Analysis Requested:	TPH	Date Reported:	03-09-94

Parameter	Sample Result (mg/kg)	Spike Added (mg/kg)	Spiked sample Result (mg/kg)	Percent Recovery
Total Petroleum Hydrocarbons	ND	507	411	81

QA ACCEPTANCE CRITERIA:	Parameter	Acceptance Range %
	TPH	80 - 120

ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

Comments:

Tony Tistano
Analyst

Marion Young
Review

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[illegible]**ENVIROTECH INC.**

5796 U.S. Highway 64-3014

5796 U.S. Highway 64-3014

Farinington, New Mexico 87401

(505) 632-0615

ENVIROTECH INC.

UNDERGROUND TANK TESTING • SITE ASSESSMENT • SITE REMEDIATION

5796 U.S. HIGHWAY 64 - 3014
FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615

May 6, 1994

Mr. Gary Simpson
Santa Fe Pacific Gold Corporation
Box 27019
Albuquerque, New Mexico 87125

Re: Laboratory Analysis
Santa Fe #1 Well Site

Project No. Q4103

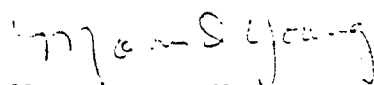
Dear Mr. Simpson,

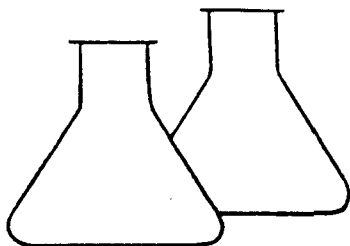
Attached please find the Laboratory Analysis Report for the four (4) samples submitted for USEPA method 418.1 Total Petroleum Hydrocarbon Analysis on March 2, 1994 by Santa Fe Pacific Gold.

As per the Chain of Custody Record, these samples were sampled by Gary Simpson and analyzed by Tony Tristano. We apologize for the delay in providing these Analysis Certificates.

If we can provide any additional information or in any way be helpful, please contact us at 505-632-0615.

Sincerely,


Morris D. Young
President
MDY502



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PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Santa Fe Pacific Gold	Project #:	04103
Sample ID:	#2 6-8	Date Sampled:	Unknown
Laboratory Number:	6944	Date Received:	03-02-94
Sample Matrix:	Soil	Date Analyzed:	03-09-94
Preservative:	Cool	Date Reported:	03-09-94
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	440	10.0

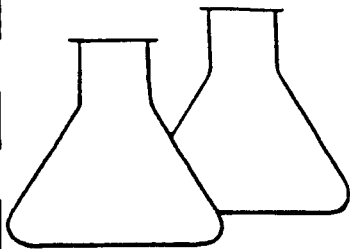
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

Comments: Santa Fe #1
Samples received w/ headspace & in plastic bottles
w/ foil closures at ambient temperature.

Tony Tiston
Analyst

Maris D. Young
Review



ENVIROTECH LABS

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PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Santa Fe Pacific Gold	Project #:	04103
Sample ID:	#2 8-10	Date Sampled:	Unknown
Laboratory Number:	6945	Date Received:	03-02-94
Sample Matrix:	Soil	Date Analyzed:	03-09-94
Preservative:	Cool	Date Reported:	03-09-94
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
-----	-----	-----
Total Petroleum Hydrocarbons	166	10.0

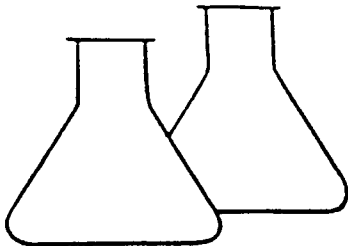
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

Comments: Santa Fe #1
Samples received w/ headspace & in plastic bottles
w/ foil closures at ambient temperature.

Tony Tristano
Analyst

Mavis D. Young
Review



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5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Santa Fe Pacific Gold	Project #:	04103
Sample ID:	#3 4-6	Date Sampled:	Unknown
Laboratory Number:	6946	Date Received:	03-02-94
Sample Matrix:	Soil	Date Analyzed:	03-09-94
Preservative:	Cool	Date Reported:	03-09-94
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
-----	-----	-----
Total Petroleum Hydrocarbons	3,110	100

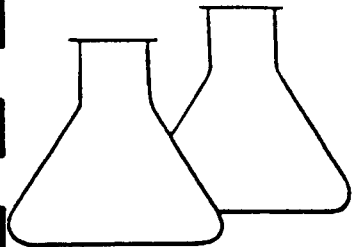
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total
Recoverable, Chemical Analysis of Water and
Waste, USEPA Storet No.4551, 1978

Comments: Santa Fe #1
Samples received w/ headspace & in plastic bottles
w/ foil closures at ambient temperature.

Tony Tristano
Analyst

Marilyn Young
Review



ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Santa Fe Pacific Gold	Project #:	04103
Sample ID:	#3 6-8	Date Sampled:	Unknown
Laboratory Number:	6947	Date Received:	03-02-94
Sample Matrix:	Soil	Date Analyzed:	03-09-94
Preservative:	Cool	Date Reported:	03-09-94
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
-----	-----	-----
Total Petroleum Hydrocarbons	7,500	100

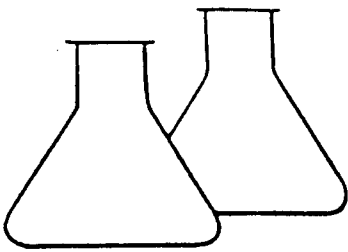
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

Comments: Santa Fe #1
Samples received w/ headspace & in plastic bottles
w/ foil closures at ambient temperature.

Tony Tristano
Analyst

Marion Young
Review



ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	N/A	Project #:	N/A
Sample ID:	Laboratory Blank	Date Sampled:	N/A
Laboratory Number:	TPSB0309	Date Received:	N/A
Sample Matrix:	Soil	Date Analyzed:	03-09-94
Preservative:	N/A	Date Reported:	03-09-94
Condition:	N/A	Analysis Needed:	TPH

Parameter -----	Concentration (mg/kg) -----	Det. Limit (mg/kg) -----
Total Petroleum Hydrocarbons	ND	10.0

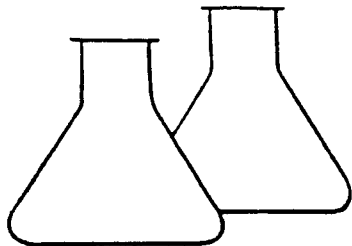
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total
Recoverable, Chemical Analysis of Water and
Waste, USEPA Storet No.4551, 1978

Comments:

Tony Tustaw
Analyst

Marisa Yang
Review



ENVIROTECH LABS

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PHONE: (505) 632-0615 • FAX: (505) 632-1865

** QUALITY ASSURANCE REPORT MATRIX SPIKE - TOTAL PETROLEUM HYDROCARBONS

Client:	N/A	Project #:	N/A
Sample ID:	Laboratory Spike	Date Sampled:	N/A
Laboratory Number:	TPSS0309	Date Received:	N/A
Sample Matrix:	Soil	Date Analyzed:	03-09-94
Analysis Requested:	TPH	Date Reported:	03-09-94

Parameter	Sample Result (mg/kg)	Spike Added (mg/kg)	Spiked sample Result (mg/kg)	Percent Recovery
Total Petroleum Hydrocarbons	ND	507	411	81

QA ACCEPTANCE CRITERIA:	Parameter	Acceptance Range %
	TPH	80 - 120

ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

Comments:

Tony Tistano
Analyst

Maxine Young
Review

331

[illegible]

ENVIROTECH INC.
5796 U.S. Highway 64-3014
Farmington, New Mexico 87401
(505) 632-0615



BRUCE KING
GOVERNOR

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

September 29, 1992

CERTIFIED MAIL
RETURN RECEIPT NO. P-670-683-590

Mr. Morris D. Young
Envirotech Inc.
5796 U.S. Highway 64 - 3014
Farmington, New Mexico 87401

RE: **Envirotech Inc. Landfarm Application**
OCD Rule 711 Permit Approval

Dear Mr. Morris:

The Oil Conservation Division (OCD) has received your July 7, 1992, request for an expansion of your current soil remediation facility located in Section 25, Township 27 North, Range 11 West, NMPM, San Juan County, New Mexico. Because the proposed landfarm expansion is not contiguous with the current facility (ie. approximately a mile away) the OCD considers the proposed site a new facility. A separate bond for \$25,000 is required for the proposed landfarm since it is a new facility.

The permit application for the Envirotech Inc. Landfarm located in the NW/4, Section 6, Township 26 North, Range 10 West, NMPM, San Juan County, New Mexico, **is hereby approved** in accordance with the OCD Rule 711 under the conditions contained in the enclosed attachment. The application consists of the original application dated July 7, 1992.

The operation, monitoring and reporting shall be as specified in the enclosed attachment. All modifications and alternatives to the approved landfarming methods must receive prior OCD approval. You are required to notify the Director of any facility expansion or process modification and to file the appropriate materials with the Division.

Please be advised approval of this facility does not relieve you of liability should your operation result in actual pollution of surface or ground waters or the environment actionable under other laws and/or regulations.

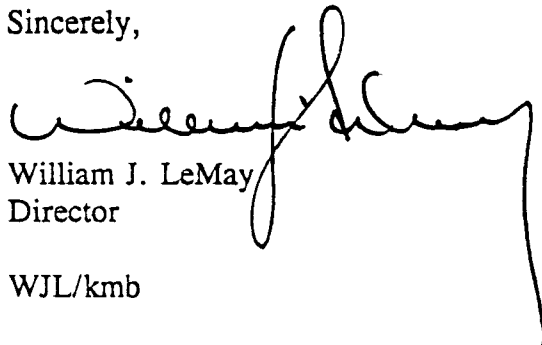
Mr. Morris D. Young
September 29, 1992
Page 2

Please be advised that all tanks exceeding 16 feet in diameter and exposed pits, ponds or lagoons must be screened, netted or otherwise rendered nonhazardous to migratory birds.

This permit approval is for a period of five (5) years. This approval will expire on September 29, 1997 and you should submit an application for renewal in ample time before that date. The Division shall have the authority to administratively change this permit to protect fresh water, human health and the environment.

If you have any questions, please do not hesitate to contact Kathy Brown at (505) 827-5884.

Sincerely,

A handwritten signature in black ink, appearing to read 'William J. LeMay', with a long, sweeping horizontal stroke extending to the right.

William J. LeMay
Director

WJL/kmb

Attachment

xc: Denny Foust, OCD Aztec Office

ATTACHMENT TO OCD 711 PERMIT APPROVAL
ENVIROTECH INC.
COMMERCIAL LANDFARM
(September 29, 1992)

LANDFARM OPERATION

1. All contaminated soils received at the facility will be spread and disked within 72 hours of receipt.
2. Soils will be spread on the surface in six inch lifts or less.
3. Soils will be disked a minimum of one time every two weeks (biweekly) to enhance biodegradation of contaminants.
4. Successive lifts of contaminated soils will not be spread until a laboratory measurement of Total Petroleum Hydrocarbons (TPH) in the previous lift is less than 100 parts per million (ppm), and the sum of all aromatic hydrocarbons (BTEX) is less than 50 ppm, and the benzene is less than 10 ppm. Comprehensive records of the laboratory analyses and the sampling locations will be maintained at the facility. Authorization from the OCD will be obtained prior to application of successive lifts.
5. Only solids which are exempt from the RCRA Subtitle C regulations or non-hazardous by characteristic testing will be accepted at the facility. Solids from operations not currently exempt under RCRA Subtitle C or mixed exempt/non-exempt solids will be tested for appropriate hazardous constituents. Test results must be submitted to the OCD along with a request to receive the non-exempt solids, and a written OCD approval (case specific) must be obtained prior to disposal. Any non-oilfield wastes which are RCRA Subtitle C exempt or are non-hazardous by characteristic testing will only be accepted on a case-by-case basis and with prior OCD approval.
6. Moisture will be added as necessary to control blowing dust and to enhance bioremediation. There will be no ponding, pooling or run-off of water allowed. Any ponding of precipitation will be removed within seventy-two (72) hours of discovery.
7. Enhanced bio-remediation through the application of microbes (bugs) will only be permitted after prior approval from the OCD. Request for application of microbes must include the location of the area designated for the bio-remediation program, composition of additives, and the method, amount and frequency of application.
8. No free liquids or soils with free liquids will be accepted at the facility.
9. Comprehensive records of all material disposed of at the facility will be maintained at the facility. The records for each load will include: 1) the origin, 2) analysis for hazardous constituents if required, 3) transporter, and 4) exact cell location and method of remediation.

TREATMENT ZONE MONITORING

1. One (1) background soil sample will be taken from the center portion of the landfarm two (2) feet below the native ground surface. The sample will be analyzed for total petroleum hydrocarbons (TPH), general chemistry, and heavy metals using approved EPA methods.
2. A treatment zone not to exceed two (2) feet beneath the land farm will be monitored. A minimum of one random soil sample will be taken from each individual cell, with no cell being larger than five (5) acres, six (6) months after the first contaminated soils are received in the cell and then quarterly thereafter. The sample will be taken at two to three (2-3) feet below the native ground surface.
3. The soil samples will be analyzed for TPH, volatile aromatic organics (BTEX) quarterly and general chemistry and heavy metals annually using approved EPA methods.
4. After obtaining the soil samples the boreholes will be filled with an impermeable material such as bentonite cement.

REPORTING

1. Analytical results from the treatment zone monitoring will be submitted to the OCD Santa Fe Office within thirty (30) days of receipt from the laboratory.
2. The OCD will be notified of any break, spill, blow out, or fire or any other circumstance that could constitute a hazard or contamination in accordance with OCD Rule 116.

BOND

Pursuant to OCD Rule 711 a surety or cash bond in the amount of \$25,000, in a form approved by the Division, is required prior to commencing construction of the commercial surface disposal facility.

CLOSURE

When the facility is to be closed no new material will be accepted. Existing soils will be remediated until they meet the OCD standards in effect at the time of closure. The area will then be reseeded with natural grasses and allowed to return to its natural state. Closure will be pursuant to all OCD requirements in effect at the time of closure.

ENVIROTECH INC.

UNDERGROUND TANK TESTING • SITE ASSESSMENT • SITE REMEDIATION

5796 U.S. HIGHWAY 64 - 3014
FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615

August 31, 1994

Mr. Gary Simpson
Santa Fe Pacific Gold Corporation
P.O. Box 27019
Albuquerque, New Mexico 87125

Re: Laboratory Analysis Results
Core Samples - Separator Pit
Santa Fe # 1 well site

Dear Mr. Simpson,

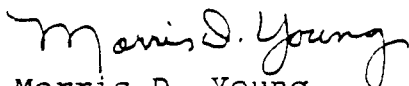
Attached please find the laboratory analysis results of the core samples that Santa Fe Pacific Gold obtained from borings in the separator pit at the Santa Fe No. 1 well site.

As per the attached analysis, at approximately 10 feet below ground surface the Total Petroleum Hydrocarbon concentration appears to be at or near non-detectable ranges in the two borings sampled.

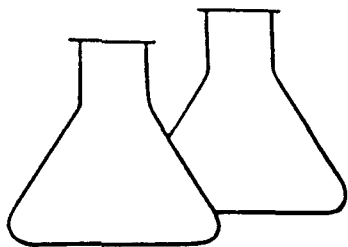
The analysis was performed by Rex Griffin, Laboratory Manager.

If we can provide any additional information please contact us at 505-632-0615.

Sincerely,



Morris D. Young
President
MDY/cj504



ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Santa Fe Gold	Project #:	04103
Sample ID:	#2 10 - 12	Date Sampled:	03-01-94
Laboratory Number:	7852	Date Received:	08-29-94
Sample Matrix:	Soil	Date Analyzed:	08-29-94
Preservative:	Cool	Date Reported:	08-31-94
Condition:	Cool and Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
-----	-----	-----
Total Petroleum Hydrocarbons	18	15.0

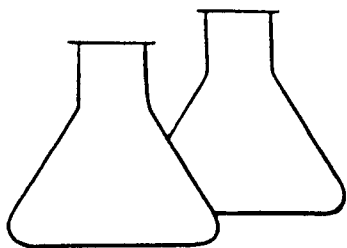
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

Comments: Santa Fe # 1

Rex L. Lauffin
Analyst

Morris D. Young
Review



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PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Santa Fe Gold	Project #:	04103
Sample ID:	#2 12 - 14	Date Sampled:	03-01-94
Laboratory Number:	7853	Date Received:	08-29-94
Sample Matrix:	Soil	Date Analyzed:	08-29-94
Preservative:	Cool	Date Reported:	08-31-94
Condition:	Cool and Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
-----	-----	-----
Total Petroleum Hydrocarbons	ND	15.0

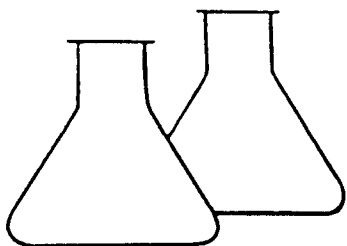
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total
Recoverable, Chemical Analysis of Water and
Waste, USEPA Storet No.4551, 1978

Comments: Santa Fe # 1

Ralph G. Hoffman
Analyst

Maris D. Young
Review



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EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Santa Fe Gold	Project #:	04103
Sample ID:	#3 8 - 10	Date Sampled:	03-01-94
Laboratory Number:	7854	Date Received:	08-29-94
Sample Matrix:	Soil	Date Analyzed:	08-29-94
Preservative:	Cool	Date Reported:	08-31-94
Condition:	Cool and Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
-----	-----	-----
Total Petroleum Hydrocarbons	332	15.0

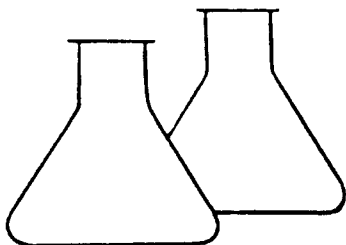
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total
Recoverable, Chemical Analysis of Water and
Waste, USEPA Storet No.4551, 1978

Comments: Sante Fe # 1

Rex L. Griffin
Analyst

Morris D. Young
Review



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PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Santa Fe Gold	Project #:	04103
Sample ID:	# 3 10 - 12	Date Sampled:	03-01-94
Laboratory Number:	7855	Date Received:	08-29-94
Sample Matrix:	Soil	Date Analyzed:	08-29-94
Preservative:	Cool	Date Reported:	08-31-94
Condition:	Cool and Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
-----	-----	-----
Total Petroleum Hydrocarbons	ND	15.0

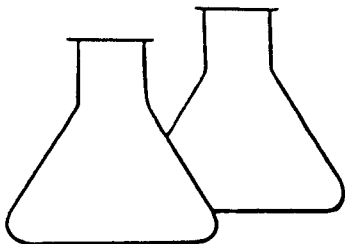
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total
Recoverable, Chemical Analysis of Water and
Waste, USEPA Storet No.4551, 1978

Comments: Santa Fe # 1

Rev L. Goffin
Analyst

Morris S. Young
Review



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PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Santa Fe Gold	Project #:	04103
Sample ID:	# 3 12 - 14	Date Sampled:	03-01-94
Laboratory Number:	7856	Date Received:	08-29-94
Sample Matrix:	Soil	Date Analyzed:	08-29-94
Preservative:	Cool	Date Reported:	08-31-94
Condition:	Cool and Intact	Analysis Needed:	TPH

Parameter -----	Concentration (mg/kg) -----	Det. Limit (mg/kg) -----
Total Petroleum Hydrocarbons	ND	15.0

ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978

Comments: Santa Fe # 1

Rev L. Hefflin
Analyst

Morris D. Young
Review

CHAIN OF CUSTODY RECORD

Client/Project Name			Project Location		ANALYSIS/PARAMETERS									
Sampler: (Signature)			Chain of Custody Tape No.		Remarks									
Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers									
Gary Simpson			Santa Fe #1											
11-2	10-12	1/2/94	7852	Soil	1	TPH								
11-3	8-10	1/3/94	7853	Soil	1	418.1								
11-3	10-12	1/3/94	7854	Soil	1									
11-3	10-12	1/3/94	7855	Soil	1									
Relinquished by: (Signature)			Date	Time	Received by: (Signature)	Date								
Gary Simpson			11		Ray K. Hoffman	2/4/94 7:45								
Relinquished by: (Signature)					Received by: (Signature)									
Relinquished by: (Signature)					Received by: (Signature)									

ENVIROTECH INC.

5796 U.S. Highway 64-3014

Farmington, New Mexico 87401

(505) 632-0615