

INSPECTIONS & DATA



NEW MEXICO ENERGY, MINERALS & NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION 2040 South Pacheco Street Santa Fe, New Mexico 87505 (505) 827-7131

-

April 28, 1997

CERTIFIED MAIL RETURN RECEIPT NO. P-326-936-282

Mr. Donnie Hill, President BC & D Oil and Gas Corporation P.O. Box 837 Hobbs, New Mexico 88241

RE: Centralized Land Farm Monitoring and Closure Requirements SE/4 NE/4, Sec. 1, Twn. 17 North, Rng. 9 West, NMPM McKinley County, New Mexico Hospah Field

Dear Mr Hill:

The New Mexico Oil Conservation Division (OCD) has received BC&D Oil and Gas Corporation's (BC&D) request, dated April 9, 1997, for closure of the centralized land farm. The OCD has reviewed the BC&D request along with the facility permit and has determined that BC&D centralized land farm has been remediated below OCD standards. According to the land farm permit BC&D is required to return the site to its natural state. This shall include leveling/dressing the soils and reseeding the site. Upon completion of these requirements OCD will finalize a review of your closure request for the centralized land farm at Hospah.

Please be advised that OCD approval does not relieve BC&D of liability should remaining contaminants pose a future threat to human health, ground water, surface water or the environment. In addition, OCD approval does not relieve BC&D of responsibility for compliance with other federal, state, and/or local regulations.

If you have any questions please do not hesitate to contact me at (505) 827-7153.

Sincerely,

Martyne & Thiely

Martyne J. Kieling Environmental Geologist

• xc: Denny Foust - OCD Aztec



BC & D OIL & GAS CORP.

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CONSERVATION DIVISION

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RECEIVED APR 1 1 1997

April 9, 1997

Environmental Bureau Oil Conservation Division

Mr. Roger Anderson State of New Mexico Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505

Re: Centralized Land Farm Monitoring and Closure Requirements Sec. 1, T17N, R9W McKinley County, New Mexico Hospah Field

Dear Mr. Anderson,

Please find attached soil sampling results of the referenced land farm. The sample analysis appear to meet or exceed your requirements. Therefore, BC & D is requesting approval to close the land farm. BC & D would like to reserve the right for future use, at which time we would apply for a new permit.

If we can be of additional assistance, please advise the undersigned at (505) 397-3972.

Thank you,

Donnie Hill, President BC & D Oil and Gas Corp.

DH/ysh

enclosure

cc: Mr. Denny Foust - Aztec file



PHOTO NO. 1 DATE:06/12/97



PHOTO NO. 2 DATE:06/12/97



PHOTO NO. 3 DATE: 06/12/97



PHOTO NO. 4 DATE: 06/12/97



PHOTO NO. 3 DATE: 06/12/97



PHOTO NO. 4 DATE: 06/12/97



PHOTO NO. 3 DATE: 06/12/97



PHOTO NO. 4 DATE: 06/12/97



PHOTO NO. 1 DATE:06/12/97

PHOTO NO. 2 DATE:06/12/97



PHOTO NO. 1 DATE:06/12/97



PHOTO NO. 2 DATE:06/12/97

ENVIROTECHIC. PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

January 23, 1997

Mr. Donnie Hill, President B, C, & D Oil & Gas Company P.O. Box 837 Hobbs, New Mexico 88241

Ref: Closure Sampling Results Sec. 1 Land Farm, Hospah, New Mexico

Dear Mr. Hill

Enclosed are the results of the land farm treatment zone closure sampling that was conducted on 12-9-96 at the above referenced site.

Mr. Dennis Foust of the New Mexico Oil Conservation Division witnessed the sampling.

Two 5 point composite soil samples were collected from the landfarm. Composite sample C-1 was collected from the north $\frac{1}{2}$ of the land farm and compostie sample C-2 was collected from the south $\frac{1}{2}$ of the land farm. Two samples were collected at each location using a backhoe from depths of 6" and 2.5' below existing ground surface and are labeled C-1 @ 6" and C-2 @ 2.5'.

The following analysis were run on each sample:

TPH EPA method 8015 BTEX EPA method 8020 Total Metals Major Cations and Anions

All sample analysis appear to be below New Mexico Oil Conservation Division action levels.

Please call if you have any questions or need additional information.

Sincerely, Envirotech Inc.

Jack Collin

C. Jack Collins, P.G. Senior Scientist/Hydrogeologist

CJC/cjc Attachments

CATION / ANION ANALYSIS

Client:	B C & D Oil	Project #:	95039
Sample ID:	C - 1 @ 2.5'	Date Reported:	01-14-97
Laboratory Number:	A809	Date Sampled:	12-09-96
Sample Matrix:	Soil Extract	Date Received:	12-09-96
Preservative:	Cool	Date Analyzed:	01-13-97
Condition:	Cool & Intact	Chain of Custody:	5025

	Analytic	al		
Parameter	Result	Units		Units
pH	8.17	s.u.		
Conductivity @ 25° C	112	umhos/cm		
Fotal Alkalinity as CaCO3	17.6	mg/L		
Fotal Hardness as CaCO3	30.8	mg/L		
SAR	0.45	ratio		
Bicarbonate as HCO3	17.6	mg/L	0.29	meq/L
Carbonate as CO3	0	mg/L	0.00	meq/L
Hydroxide as OH	0	mg/L	0.00	meq/L
Nitrate Nitrogen	0.75	mg/L	0.01	meq/L
Nitrite Nitrogen	0.024	mg/L	0.00	meq/L
Chloride	7.91	mg/L	0.22	meq/L
Sulfate	22.0	mg/L	0.46	meq/L
Calcium	6.72	mg/L	0.34	meq/L
Magnesium	3.42	mg/L	0.28	meq/L
Potassium	4.25	mg/L	0.11	meq/L
Sodium	5.74	mg/L	0.25	meq/L
Cations			0.98	meq/L
Anions			0.98	meq/L
Cation/Anion Difference			0.72%	

Reference:

U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983 Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: Hospah Sec. 1 Landfarm.

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tacy W Sendler Review



RACTICAL SOLUTIONS FOR A BETTER TOMORROW

Client:	B C & D Oil	Project #:	95039
Sample ID:	C - 2 @ 2.5'	Date Reported:	01-14-97
Laboratory Number:	A811	Date Sampled:	12-09-96
Sample Matrix:	Soil Extract	Date Received:	12-09-96
Preservative:	Cool	Date Analyzed:	01-13-97
Condition:	Cool & Intact	Chain of Custody:	5025

	Analytica	ai		
Parameter	Result	Units		Units
nH	8 18	5.11		
	0.10	5.u.		
Conductivity @ 25° C	62	umhos/cm		
Total Alkalinity as CaCO3	10.8	mg/L		
Total Hardness as CaCO3	14.2	mg/L		
SAR	0.85	ratio		
Bicarbonate as HCO3	10.8	mg/L	0.18	meq/L
Carbonate as CO3	0	mg/L	0.00	meg/L
Hydroxide as OH	0	mg/L	0.00	meq/L
Nitrate Nitrogen	0.25	mg/L	0.00	meg/L
Nitrite Nitrogen	0.02	mg/L	0.00	meq/L
Chloride	4.25	mg/L	0.12	meq/L
Sulfate	17.0	mg/L	0.35	meq/L
Calcium	3.44	ma/L	0.17	mea/L
Magnesium	1.36	ma/L	0.11	meg/L
Potassium	1.4	mg/L	0.04	meg/L
Sodium	7.36	mg/L	0.32	meq/L
Cations			0.64	mea/L
Anions			0.66	meq/L
Cation/Anion Difference			2.41%	

Cation/Anion Difference

Reference:

U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983 Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: Hospah Sec. 1 Landfarm.

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tacy W Sendler Review

5796 U.S. Highway 64-3014 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1865

2	Relinquished by: (Signature)	Retroquished by: (Signature)	Inquished by: (Signature)			0-202.5	C206"	•	C-1@ 2.5	2-1@ 6"	Sample No./ Identification	Sampler: (Signature)	BCAD il	
			J.			11 95-5-21	1299519		12-51-96 10	12-9-96 4	Sample S Date		95039	
					 	40	1020		30	2400	Time		· ·	
			12			A 811	A 810		A 809	A 808	Lab Number	Chain of Custody Tape I	Project Location Hozyah	C
ENVIROT 5796 U.S. Hig Farmington, Nev (505) 63			Date Time			Sar	Sout	×.	50;1	50;1	Sample Matrix	6	Sec / Long	HAIN OF CUS
ECH Ir hway 64-30 v Mexico 12-0615	Received by	Received by	Received by		 	<u>19</u>	1		N	-	Nc	. of		ΤΟΡΥ
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			Date 12 - 9-96 13									Remarks		
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EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Client:	B C & D Oil	Project #:	95039
Sample ID:	C - 1 @ 6"	Date Reported:	12-10-96
Laboratory Number:	A808	Date Sampled:	12-09-96
Chain of Custody No:	5025	Date Received:	12-09-96
Sample Matrix:	Soil	Date Extracted:	12-09-96
Preservative:	Cool	Date Analyzed:	12-10-96
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	1.0	0.1
Total Petroleum Hydrocarbons	1.0	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Comments: Hospah Sec 1 Landfarm.

1). Tend Review

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Client:	B C & D Oil	Project #:	95039
Sample ID:	C - 1 @ 2.5'	Date Reported:	12-10-96
Laboratory Number:	A809	Date Sampled:	12-09-96
Chain of Custody No:	5025	Date Received:	12-09-96
Sample Matrix:	Soil	Date Extracted:	12-09-96
Preservative:	Cool	Date Analyzed:	12-10-96
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Comments: Hospah Sec 1 Landfarm.

Luca Analyst

Hacy W. Jende Review



EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Parameter		Concentration (mg/Kg)	Det. Limit (mg/Kg)
Condition:	Cool and Intact	Analysis Requested:	8015 TPH
Preservative:	Cool	Date Analyzed:	12-10-96
Sample Matrix:	Soil	Date Extracted:	12-09-96
Chain of Custody No:	5025	Date Received:	12-09-96
Laboratory Number:	A810	Date Sampled:	12-09-96
Sample ID:	C - 2 @ 6"	Date Reported:	12-10-96
Client:	B C & D Oil	Project #:	95039

Gasonne Kange (CS - CTO)	ND	0.2
Diesel Range (C10 - C28)	1.0	0.1
Total Petroleum Hydrocarbons	1.0	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Comments: Hospah Sec 1 Landfarm.

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Review

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Client:	B C & D Oil	Project #:	95039
Sample ID:	C - 2 @ 2.5'	Date Reported:	12-10-96
Laboratory Number:	A811	Date Sampled:	12-09-96
Chain of Custody No:	5025	Date Received:	12-09-96
Sample Matrix:	Soil	Date Extracted:	12-09-96
Preservative:	Cool	Date Analyzed:	12-10-96
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1

Total Petroleum Hydrocarbons

ND - Parameter not detected at the stated detection limit.

References: Method 8015, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Comments: Hospah Sec 1 Landfarm.

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QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION

EPA Method 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Quality Assurance Report

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Client: Sample ID: Laboratory Number:	QA/QC Laboratory Blank 12-10-TPH BLANK	Project #: Date Reported: Date Sampled:	N/A 12-10-96 N/A
Sample Matrix:	Methylene Chloride	Date Sampled. Date Received:	N/A 12 10 96
Condition:	N/A N/A	Analysis Requested:	TPH

Parameter	Concentration (mg/L)	Det. Limit (mg/L)
Gasoline Range C5 - C10	ND	0.2
Diesel Range C10 - C28	ND	0.1

ND

ND - Parameter not detected at the stated detection limit.

Total Petroleum Hydrocarbons

References: Method 8015, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Comments: QA/QC for samples A808 - A811.

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ENVIROTECH LABS PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	12-10-96
Laboratory Number:	A808	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	Cool	Date Analyzed:	12-10-96
Condition:	Cool and Intact	Analysis Requested:	TPH

Parameter	Sample Result (mg/Kg)	Duplicate Result (mg/Kg)	Percent Difference
Gasoline Range (C5 - C10)	ND	ND	0.0%
Diesel Range (C10 - C28)	1.0	1.0	0.0%
Total Petroleum Hydrocarbons	1.0	1.0	0.0%

ND - Parameter not detected at the stated detection limit.

QA/QC Accept	tance Criteria:	Parameter	Max Difference
		Petroleum Hydrocarbons	30%
References:	Method 8015, Nonhal SW-846, USEPA, July	ogenated Volatile Organics, Test Methods f / 1992.	for Evaluating Solid Waste,
Comments:	QA/QC for sampl	es A808 - A811.	
Analyst	L. Qju	een dacy Review	W. Jende



Client:	QA/QC	Project #:	N/A	
Sample ID:	Matrix Spike	Date Reported:	12-10-96	
Laboratory Number:	A808	Date Sampled:	N/A	
Sample Matrix:	Soil	Date Received:	N/A	
Analysis Requested:	ТРН	Date Analyzed:	12-10-96	
Condition:	N/A			

Parameter	Sample Result (mg/kg)	Spike Added (mg/kg)	Spiked Sample Result (mg/kg)	Det. Limit (mg/kg)	Percent Recovery
Gasoline Range (C5 - C10)	ND	250	245	0.2	98%
Diesel Range (C10 - C28)	1.0	250	248	0.1	99%
Total Petroleum Hydrocarbons	1.0	500	493	0.2	98%

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Acceptance Range

Petroleum Hydrocarbons

75 - 125%

References: Method 8015, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Comments: QA/QC for samples A808 - A811.

Analyst

Hacy W. Jonde Review

EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	B C & D Oil	Project #:	95039
Sample ID:	C - 1 @ 6"	Date Reported:	12-10-96
Laboratory Number:	A808	Date Sampled:	12-09-96
Chain of Custody:	5025	Date Received:	12-09-96
Sample Matrix:	Soil	Date Analyzed:	12-10-96
Preservative:	Cool	Date Extracted:	12-09-96
Condition:	Cool & Intact	Analysis Requested:	BTEX

·		Det.	
	Concentration	Limit	
Parameter	(ug/Kg)	(ug/Kg)	
Benzene	ND	8.8	
Toluene	29.7	8.4	
Ethylbenzene	11.8	7.6	
p,m-Xylene	23.1	10.8	
o-Xylene	10.3	5.2	
Total BTEX	74.9		

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:		Parameter	Percent Recovery
	·	Trifluorotoluene	98 %
		Bromofluorobenzene	101 %
References:	Method 503 July 1992.	0, Purge-and-Trap, Test Methods for Eval	uating Solid Waste, SW-846, USEPA,
	Method 802	0, Aromatic Volatile Organics, Test Method	ds for Evaluating Solid Waste, SW-846,

USEPA, Sept. 1994.

Comments: Hospah Sec 1 Landfarm.

Gieren Analyst

tacy W. Son Review

EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	B C & D Oil	Project #:	95039
Sample ID:	C - 1 @ 2.5'	Date Reported:	12-10-96
Laboratory Number:	A809	Date Sampled:	12-09-96
Chain of Custody:	5025	Date Received:	12-09-96
Sample Matrix:	Soil	Date Analyzed:	12-10-96
Preservative:	Cool	Date Extracted:	12-09-96
Condition:	Cool & Intact	Analysis Requested:	BTEX

		Det.
	Concentration	Limit
Parameter	(ug/Kg)	(ug/Kg)
_		
Benzene	35.8	8.8
Toluene	54.8	8.4
Ethylbenzene	21.8	7.6
p,m-Xylene	41.4	10.8
o-Xylene	22.6	5.2
Total BTEX	176	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:		Parameter	Percent Recovery
		Trifluorotoluene Bromofluorobenzene	102 % 101 %
References:	Method 503 July 1992.	5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA 2.	
	Method 802 USEPA, Se	0, Aromatic Volatile Organics, Test Method ot. 1994.	ds for Evaluating Solid Waste, SW-846,
Comments:	Hospah S	ec 1 Landfarm.	

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EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	B C & D Oil	Project #:	95039
Sample ID:	C - 2 @ 6"	Date Reported:	12-10-96
Laboratory Number:	A810	Date Sampled:	12-09-96
Chain of Custody:	5025	Date Received:	12-09-96
Sample Matrix:	Soil	Date Analyzed:	12-10-96
Preservative:	Cool	Date Extracted:	12-09-96
Condition:	Cool & Intact	Analysis Requested:	BTEX

		Det.
	Concentration	Limit
Parameter	(ug/Kg)	(ug/Kg)
Benzene	ND	8.8
Toluene	25.0	8.4
Ethylbenzene	ND	7.6
p,m-Xylene	16.3	10.8
o-Xylene	6.7	5.2
Total BTEX	48.0	

ND - Parameter not detected at the stated detection limit.

veries:	Parameter	Percent Recovery
	Trifluorotoluene Bromof∥uorobenzene	98 % 100 %
Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, I July 1992.		uating Solid Waste, SW-846, USEPA,
Method 802 USEPA, Sej	0, Aromatic Volatile Organics, Test Metho ot. 1994.	ds for Evaluating Solid Waste, SW-846,
ents: Hospah Sec 1 Landfarm.		
	Method 503 July 1992. Method 802 USEPA, Sep Hospah S	Trifluorotoluene Bromofluorobenzene Method 5030, Purge-and-Trap, Test Methods for Eval July 1992. Method 8020, Aromatic Volatile Organics, Test Metho USEPA, Sept. 1994. Hospah Sec 1 Landfarm.

L. Ofenen en Analyst

tacy W. Jende Review

RACTICAL SOLUTIONS FOR A BETTER TOMORRO

EPA METHOD 8020 **AROMATIC VOLATILE ORGANICS**

Client:	B C & D Oil	Project #:	95039
Sample ID:	C - 2 @ 2.5'	Date Reported:	12-10-96
Laboratory Number:	A811	Date Sampled:	12-09-96
Chain of Custody:	5025	Date Received:	12-09-96
Sample Matrix:	Soil	Date Analyzed:	12-10-96
Preservative:	Cool	Date Extracted:	12-09-96
Condition:	Cool & Intact	Analysis Requested:	BTEX

· · · ·		Det.
	Concentration	Limit
Parameter	(ug/Kg)	(ug/Kg)
Benzene	ND	8.7
Toluene	35.4	8.3
Ethylbenzene	8.3	7.6
p,m-Xylene	28.2	10.8
o-Xylene	15.5	5.2
Total BTEX	87.4	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:		Parameter	Percent Recovery
		Trifluorotoluene	101 %
		Bromofluorobenzene	100 %
References:	Method 503 July 1992.	0, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA,	
	Method 802 USEPA, Sej	0, Aromatic Volatile Organics, Test Method ot. 1994.	ds for Evaluating Solid Waste, SW-846,
Comments:	Hospah S	ec 1 Landfarm.	

em L. ajenen Analyst

tacy W. June Review



QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION

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EPA METHOD 8020 AROMATIC VOLATILE ORGANICS QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	12-10-96
Laboratory Number:	12-10-BTEX.BLANK	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	12-10-96
Condition:	N/A	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene Toluene	ND ND	0.2
Ethylbenzene p,m-Xylene o-Xylene	ND ND ND	0.2 0.2 0.1

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:		Parameter	Percent Recovery
		Trifluorotoluene	100 %
		Bromofluorobenzene	100 %
References:	Method 503 July 1992.	0, Purge-and-Trap, Test Methods for Eval	uating Solid Waste, SW-846, USEPA,
	Method 8020, Aromatic Volatile Organics, Test Methods for Evalua		ds for Evaluating Solid Waste, SW-846,

USEPA, Sept. 1994.

Comments: QA/QC for samples A808 - A811.

P. Cejenen Analyst

tacy W. Jende Review

EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	12-10-96
Laboratory Number:	A808	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	Cool	Date Analyzed:	12-10-96
Condition:	Cool and Intact	Analysis Requested:	BTEX

Parameter	Sample Result (ug/Kg)	Duplicate Result (ug/Kg)	Det. Limit (ug/Kg)	Percent Difference
Benzene	ND	ND	8.8	0.0%
Toluene	29.7	29.8	8.4	0.5%
Ethylbenzene	11.8	11.9	7.6	1.1%
p,m-Xylene	23.1	22.8	10.8	1.3%
o-Xylene	10.3	10.0	5.2	2.3%

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:		Parameter	Maximum Difference		
		8020 Compounds	30 %		
References:	Method 5030, Purge-and-T July 1992.	rap, Test Methods for Evaluating	Solid Waste, SW-846, USEPA,		
	Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1994.				
Comments:	QA/QC for samples A	.808 - A811.			

Jenn L. ajenen Analyst

acy W. Jendo Review

5796 U.S. Highway 64-3014 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1865



EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Spike	Date Reported:	12-10-96
Laboratory Number:	A808	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	Cool	Date Extracted:	12-09-96
Condition:	Cool and Intact	Date Analyzed:	12-10-96

Parameter	Sample Result (ug/Kg)	Spike Added (ug/Kg)	Spiked Sample Result (ug/Kg)	Det. Limit (ug/Kg)	Percent Recovery	SW-846 % Rec. Accept. Range
Benzene	ND	50.0	48.5	8.8	97%	39-150
Toluene	29.7	50.0	77.4	8.4	97%	46-148
p,m-Xylene	11.8 23.1 10 3	50.0 100 50.0	59.7 120 58.0	7.6 10.8 5.2	97% 98% 96%	32-160 46-148 46-148

ND - Parameter not detected at the stated detection limit.

References: 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. 1994.

Comments: QA/QC for samples A808 - A811.

Gieren Analyst

tacy W. Jende Review

5025			Remarks								Date				
	D	ANALYSIS/PARAMETERS	RCRP (WARNS	an the second		7		7							
	ору весов		of ners	Contai	> 1	2 1	 ~	2 7	 		leceived by: (Signature)	leceived by: (Signature)	leceived by: (Signature)	CH INC. way 64-3014 Mexico 87401 -0615	
	AIN OF CUST	Sec1 Land		Sample Matrix	501)	Seil	Sail	Serl			Date Time R -9-5/23/		<u></u>	EOVIROTE 5796 U.S. High Farmington, New (505) 632	
	ъ	Project Location Hospah	Chain of Custody Tape No	Lab Number	A 808	A 807	A 810	A 811			12-				and a second
		-		Sample Time	105-011	0601	10 Bott	104							
, , , , , , , , , , , , , , , , , , ,	· /	9503		Sample Date	96-6-21	25-9-4	96-621	ab-b-2			· }			×	•
		Client/Project Name	Sampler: (Signature) C Jack (All	Sample No./ Identification	C-1 & 6''	C-16 2.50	02064	0-202.5'			Relinquished by: (Signature)	Relyquished by: (Signature)	Relinquished by: (Signature)		

I



TRACE METAL ANALYSIS

Client:	BC&DOil	Project #:	95039
Sample ID:	C - 1 @ 2.5'	Date Reported:	12-13-96
Laboratory Number:	A809	Date Sampled:	12-09-96
Chain of Custody:	5025	Date Received:	12-09-96
Sample Matrix:	Soil	Date Analyzed:	12-12-96
Preservative:	Cool	Analysis Needed:	Trace metals
Condition:	Cool & Intact		

Det.
imit
g/Kg)
<u>)(</u>

Arsenic	ND	0.005
Barium	96.8	0.005
Cadmium	0.110	0.005
Chromium	2.74	0.005
Lead	4.01	0.005
Mercury	ND	0.005
Selenium	ND	0.005
Silver	ND	0.005

ND - Parameter not detected at the stated detection limit.

References:

Method 3050, Acid Digestion of Sediments, Sludges, and Soils for total Metals, SW-846, USEPA, July 1992.

Methods 7060, 7080, 7131, 7191, 7421, 7471, 7740 and 7761 Analysis of Metals by GFAA and FLAA, SW-846, USEPA.

Comments:

Hospah Sec 1 Landfarm.

Lune Analyst

y W. Jendle Review

TRACE METAL ANALYSIS

Client:	BC&DOil	Project #:	95039
Sample ID:	C - 2 @ 2.5'	Date Reported:	12-13-96
Laboratory Number:	A811	Date Sampled:	12-09-96
Chain of Custody:	5025	Date Received:	12-09-96
Sample Matrix:	Soil	Date Analyzed:	12-12-96
Preservative:	Cool	Analysis Needed:	Trace metals
Condition:	Cool & Intact		

Darameter		
Falametei	(mg/Kg)	(my/ky)

Arsenic	ND	0.005
Barium	130	0.005
Cadmium	0.135	0.005
Chromium	3.41	0.005
Lead	4.88	0.005
Mercury	ND	0.005
Selenium	ND	0.005
Silver	ND	0.005

ND - Parameter not detected at the stated detection limit.

References: Method 3050, Acid Digestion of Sediments, Sludges, and Soils for total Metals, SW-846, USEPA, July 1992.

Methods 7060, 7080, 7131, 7191, 7421, 7471, 7740 and 7761 Analysis of Metals by GFAA and FLAA, SW-846, USEPA.

Comments:

Hospah Sec 1 Landfarm.

Gener

Analyst

ty W. Jendo Review



QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION



Client:	QA/QC	Project #:	N/A
Sample ID:	Blanks	Date Reported:	12-13-96
Laboratory Number:	12-12-96-Blank	Date Sampled:	N/A
Sample Matrix:	Water / Soil	Date Received:	N/A
Preservative:	Cool	Date Analyzed:	12-12-96
Condition:	N/A	Analysis Needed:	Trace Metals

	Instrument	Method	Det.
	Blank	Blank	Limit
Parameter	(mg/L)	(mg/L)	(mg/L)

Arsenic	ND	ND	0.0001
Barium	ND	ND	0.001
Cadmium	ND	ND	0.0001
Chromium	ND	ND	0.0001
Lead	ND	ND	0.0001
Mercury	ND	ND	0.0001
Selenium	ND	ND	0.0001
Silver	ND	ND	0.0001

ND - Parameter not detected at the stated detection limit.

References: Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, July 1992.

Methods 7060, 7080, 7131, 7191, 7421, 7471, 7740 and 7761 Analysis of Metals by GFAA and FLAA, SW-846, USEPA.

Comments:

QA/QC for samples A809 and A811.

m.L. ajana

W. Jende Review



Client:	QA/QC		Project #:	N/A
Sample ID:	Matrix	Duplicate	Date Reported:	12-13-96
Laboratory Number:	A809		Date Sampled:	N/A
Sample Matrix:	Soil		Date Received:	N/A
Analysis Requested:	Trace	Metals	Date Analyzed:	12-12-96
Condition:	N/A			
	Sample	Duplicate	Detection	
	Result	Result	Limit	Percent
Parameter	(mg/Kg)	(mg/Kg)	(mg/Kg)	Difference
Arsenic	ND	ND	0.005	0.0%
Barium	96.8	96.6	0.005	0.2%
Cadmium	0.110	0.095	0.005	13.6%
Chromium	2.74	2.77	0.005	1.1%
Lead	4.01	3.98	0.005	0.7%
Mercury	ND	NC	0.005	0.0%
Selenium	ND	ND	0.005	0.0%
Silver	ND	NC	0.005	0.0%

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:		Parameter	Maximum Difference	
		Trace Metals	30 %	
References:	Method 3050 Acid Digestion of Sediments, Sludges, and Soils for Total Metals, SW-846, USEPA, July 1992.			
	Methods 7060, 7080 Analysis of Metals by	, 7131, 7191, 7421, 7471, 77 GFAA and FLAA, SW-846,	740 and 7761 USEPA.	

Comments:

QA/QC for samples A809 and A811.

en L. ajenen

Stacy W Sendler Review

TRACE METAL ANALYSIS SPIKE

Client: Sample ID: Laboratory Number: Sample Matrix: Analysis Requested: Condition:	QA/QC Laboratory Spike A809 Soil Trace Metals N/A	F [[[[Project #: Date Reported: Date Sampled: Date Received: Date Analyzed:	N/A 12-13-96 N/A N/A 12-12-96
Parameter	Spike Added (mg/Kg)	Sample Result (mg/Kg)	Spiked Sample Result (mg/Kg)	Percent Recovery
Arsenic Barium Cadmium Chromium Lead Mercury Selenium Silver	5.00 50.0 2.50 2.50 5.00 1.25 5.00 2.50	ND 96.8 0.110 2.74 4.01 ND ND ND	4.94 147 2.62 5.27 8.98 1.23 4.98 2.47	99% 100% 100% 100% 98% 100% 99%

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Acceptance Range %

Trace Metals

80 - 120 %

References:Method 3050, Acid Digestion of Sediments, Sludges, and Soils for Total
Metals, SW-846, USEPA, July 1992.
Methods 7060, 7080, 7131, 7191, 7421, 7471, 7740 and 7761
Analysis of Metals by GFAA and FLAA, SW-846, USEPA.

Comments:

QA/QC for samples A809 and A811.

-L. Coursen Analyst

Review Stacy W Sendler
STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



DRUG FREE

BRUCE KING GOVERNOR

March 16, 1994

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

ANITA LOCKWOOD CABINET SECRETARY

> CERTIFIED MAIL RETURN RECEIPT NO. P-667-241-913

Mr. Donnie Hill BC & D Operating, Inc. P.O. Box 5926 Hobbs, New Mexico 88241

RE: SOIL REMEDIATION COMPLETION REPORT BC & D OPERATING, INC. HOSPAH FIELD MCKINLEY COUNTY, NEW MEXICO

Dear Mr. Hill:

The New Mexico Oil Conservation Division (OCD) has completed a review of the BC & D Operating, Inc. October 6, 1993 "COMPLETION OF EXCAVATION AT HOSPAH FIELD, MCKINLEY COUNTY, NEW MEXICO" and February 10, 1994 "SOIL REMEDIATION COMPLETION REPORT, HOSPAH FIELD, MCKINLEY COUNTY, NM". These reports document the results of the remediation of contaminated soils from the arroyo and two settling ponds adjacent to BC & D Operating's Hanson Sand Unit, Hanson and SFRR tank batteries in the Hospah Field.

The closure activities described in the above referenced reports are approved.

Please be advised that OCD approval does not relieve BC & D Operating of liability should remaining contaminants pose a future threat to human health, surface water, ground water or the environment. In addition, OCD approval does not relieve BC & D Operating of responsibility for compliance with any other federal state or local laws and/or regulations.

If you have any questions, please contact me at (505) 827-5885.

Sincerely,

William C. Olson Hydrogeologist Environmental Bureau

xc: OCD Aztec Office



BRUCE KING GOVERNOR

ANITA LOCKWOOD CABINET SECRETARY 1000 RIO BRAZOS ROAD AZTEC, NEW MEXICO 87410 (505) 334-6178

February 22, 1994

Certified Mail Receipt #P 987-892-074

BC & D Operating, Inc. Attn Donnie Hill President POB 5926 Hobbs, NM 88241

RE: Centralized Landfarm Hospah Field

Dear Mr. Hill:

This is a reminder that all lifts in BC & D Operating's centralized landfarm at the Hospah Field are not to exceed one foot in thickness or a lesser depth the that can be turned with the equipment available. The materials on the landfarm are to be spread to lifts not exceeding one foot by April 1, 1994. The landfarm is to be tilled biweekly from this date until weather conditions deteriorate about November 1, 1994. Keep a record of the tilling dates. Your permit also calls for an identifying sign on the landfarm which I didn't see on my last visit. I do not have the treatment zone background sample results in my files. Please forward a copy of these results for my records.

If you have questions on the permit or the items outlined above please give me a call at 505-334-6178.

Yours truly,

emy 2. Tour

Denny G. Foust Environmental Geologist

Xc: OCD Environmental Bureau DGF File

Environmental File



'SHITE IN AN 8 35

February 10, 1994

State of New Mexico Oil Conservation Division Mr. William C. Olson P.O. Box 2088 State Land Business Santa Fe, NM 87504

RE: Soil Remediation Completion Report Hospah Field McKinley County, NM

Dear Mr. Olson:

In response to your letter requesting additional information of the "completion of excavation" at Hospah Field, McKinley County, New Mexico, we have attempted to identify and address your points of concern.

If additional information is needed please advise the undersigned.

Thank you,

Donnie Hill President

Enclosures

DH:sn

cc: Hospah file

In response to the question posed by the Oil Conservation Division's letter dated November 4, 1993, the following information will hopefully answer the information requested.

- ** Enclosed is a map of the sampling points along the sandavol arroyo indicating the footage and comments concerning the sampling. Please notice on the North Hospah Sand Unit (Sec. 1) that a portion was skipped due to wet conditions and we returned at a later date to continue sampling.
- ** The soil sample analytical method used on-site was EPA method 418.1.
- ** Sampling was initially initiated from the emergency overflow pits in the Hospah Sand Unit (Sec. 1). The arroyo was excavated with a trackhoe. Until it was determined the soil was clean to pass standards set for remediation. The samples were taken by grab and composite sampling at the points indicated along the arroyo.
- ** All of the arroyo was remediated below the 100 parts per million of total petroleum hydrocarbons.



SITE SURVEY

DATE: 08/26/93 CLIENT: B C & D OPERATION FACILITY: HOSPAH

ORDERED BY: D. HILL HOSPAH PIT & DRAW

DATE OF SPILL:N/ATIME OF SPILL:N/A:AM PM# OF BARRELS:N/ACLOSE PROXIMITY:YES X NODATE CONTACTED:8/25/93TIME CONTACTED9:00 (M) PMDATE ON LOCATION:8/26/93TIME ON LOCATION1 : 00 AM (M)SUPERVISOR:A. HODGE.CLIENT CONTACT: D. HILLSUPERVISOR PHONE:505/392-6167CLIENT PHONE:505/392-2041

REMEDIATION METHOD

DILUTION

ENHANCED REMEDIATION

____ OFF-SITE DISPOSAL

_X___OTHER

OF CU. YDS. USED: SOURCE OF SOIL: BACTERIA TYPE: AMOUNT USED: DISPOSAL SITE NAME: MANIFEST #: MINOR PERMIT #: Soil excavation of draws and soil test for TPH to verify contamination has been removed.

SUPERVISOR SIGNATURE

SITE SURVEY

DATE: 09/08/93 CLIENT: B C & D OPERATION FACILITY: SANTA FE & HANSON

ORDERED BY: D. HILL WELL# SETTING POND

DATE OF SPILL: N/A TIME OF SPILL: N/A : AM PM # OF BARRELS: CLOSE PROXIMITY: YES X NO N/A 8:30 AMPM DATE CONTACTED: 9/07/93 TIME CONTACTED DATE ON LOCATION: 9/07/93 TIME ON LOCATION 2:00 AMPMSUPERVISOR: S. THOMAS CLIENT CONTACT: D. HILL . SUPERVISOR PHONE: 505/392-6167 CLIENT PHONE: 505/392-2041

REMEDIATION METHOD

DILUTION

ENHANCED REMEDIATION

____ OFF-SITE DISPOSAL

___X___OTHER

OF CU. YDS. USED: SOURCE OF SOIL: BACTERIA TYPE: AMOUNT USED: DISPOSAL SITE NAME: MANIFEST #: MINOR PERMIT #: Soil excavation of setting pond and soil test for TPH to verify contamination has been removed.

Stoney Homas

SUPERVISØR SIGNATURE

SITE SURVEY

DATE: 09/04/93 CLIENT: B C & D OPERATION FACILITY: HOSPAH SAND UNIT

ORDERED BY: D. HILL SETTING POND

DATE OF SPILL: N/A TIME OF SPILL: N/A AM PM • CLOSE PROXIMITY: ____YES __X___NO # OF BARRELS: N/A DATE CONTACTED: 9/01/93 TIME CONTACTED 9:00 AMD PM DATE ON LOCATION: 9/04/93 TIME ON LOCATION 7 : 30 AMPM SUPERVISOR: S. THOMAS CLIENT CONTACT: D. HILL SUPERVISOR PHONE: 505/392-6167 CLIENT PHONE: 505/392-2041

REMEDIATION METHOD

DILUTION

_____ENHANCED REMEDIATION

____ OFF-SITE DISPOSAL

__X___OTHER

OF CU. YDS. USED: SOURCE OF SOIL: BACTERIA TYPE: AMOUNT USED: DISPOSAL SITE NAME: MANIFEST #: MINOR PERMIT #: Soil excavation of setting pond and soil test for TPH to verify contamination has been removed.

SUPERVISOR SIGNATURE



PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TEXAS 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NEW MEXICO 88240

FINAL ANALYSIS REPORT

Company:	Environmental Spill Control, Inc.	Date:	9/21/93
Address:	P.O. Box 5890	Lab#:	H1360
City, State:	Hobbs, NM 88241-5890		

Project Name: Project Location: Hospah Sampled by: AH Analyzed by: MF Type of Samples:Soil

Date: 9/15/93 Time: Date: 9/20/93 Time: 7:30 Sample Condition: GIST

Units: mg/kg, mg/l

****	*************	*******	*********	*******	*******	*******	*******	*********	******
Sam <u>]</u> #	p Field Code	BENZENE	TOLUENE	ETHYL BENZENE	PARA- XYLENE	META- XYLENE	ORTHO- XYLENE	MTBE	
12345 567890 111123 11415 16	SFRR St.Pt.O' SFRR Arroyo 20' SFRR Arr. 100' SFRR Arr. 300' HSUS Pond 10' HSUS St.Pt. 0' HSU " 100' HSU " 300' HSU " 600' HSU " 900' HSU " 1200' HSU " 1500' HSU " 1800' HSU " 2100' HSU " 2400'	<0.001 <0.001 <0.001 <0.001 2.297 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.009 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.001 <0.001 <0.001 <0.000 0.050 0.008 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.001 <0.001 <0.001 <0.001 0.020 <0.001 0.023 <0.001 <0.001 0.008 <0.001 <0.001 0.008 <0.001 <0.008 <0.001	<0.001 <0.001 <0.001 1.171 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	
	QC Recovery QC Spike Accuracy Air Blank	1.802 1.910 94.3 ***	1.939 1.970 98.4 <0.001	1.958 1.970 99.3 <0.001	1.914 1.912 100.1% <0.001	1.951 1.912 102.0% <0.001	2.049 1.939 105.7% <0.001	1.398 1.597 87.4% <0.001	

Methods - AUTOMATED HEADSPACE GC - EPA SW-846; EPA METHODS 8020

100 lex

Michael R. Fowler

Date 9/21/93



PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TEXAS 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NEW MEXICO 88240

~ / ~ ~ / ~ ~

FINAL ANALYSIS REPORT

Comp Addr City	ess: P.O. E , State: Hobbs,	onmental S Box 5890 NM 88241	-5890	rol, inc.	Date: 1 Lab#: 1	9/23/93 H1365		
Proj Proj Samp Anal Type	ect Name: ect Location: led by: ST yzed by: MF/HM of Samples: Soi	Hospah, N 1	M Date: 9/2 Date: 9/2 Sample Co	1/93 T 2/93 T ndition:	ime: 8:40 ime: 9:30 GST		Units: mg/	'kg
**** Samp #	**************************************	BENZENE	********** TOLUENE	********* ETHYL BENZENE	********** PARA- XYLENE	********** META- XYLENE	*********** ORTHO- XYLENE	******* MTBE
1 2 3 4 5 6 7 8 9 0 11 12 3 4 5 16 11 12 3 4 5 10 11 12 3 4 5 6 7 8 9 0 11 12 3 4 5 6 7 8 9 0 11 12 3 4 5 6 7 8 9 0 11 12 3 14 5 6 7 8 9 0 11 12 12 12 14 5 15 10 11 12 12 11 12 12 11 11	0' Hanson Sec.6 20' " 100' " 300' " 600' " 1200' " 1500' " 1500' " 2100' " 2400' " 900' S.F.Sec.6 1200' " 1500' " 1800' " 2100' "	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.001 <0.001 0.011 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.001 <0.001 0.004 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.001 <0.001 <0.001 <0.001 <0.004 <0.001 0.003 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<pre><0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001</pre>

QC Recovery QC Spike	1.988 2.144	2.193	2.205	2.131 2.147	2.104	2.210	1.525
Accuracy	92.7%	99.1%	99.7%	99.38	98.0%	101.5%	85.0%
Air Blank	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Methods - AUTOMATED HEADSPACE GC - EPA SW-846; EPA METHODS 8020

Michael R. Fowler

Date _ 4/23/



Submit 3 Copies to Appropriate Energy Ainerals and Natural Resources Department District Office	Form C-103 Revised 1-1-89				
DISTRICT I P.O. Box 1980, Hobbs, NM 88240 OIL CONSERVATION DIVISION P.O. Box 2088	WELL API NO.				
DISTRICT II P.O. Drawer DD, Artesia, NM 88210 Santa Fe, New Mexico 87504-2088	5. Indicate Type of Lease				
DISTRICT III 1000 Rio Brazos Rd., Aziec, NM 87410	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				
1. Type of Well: OL CAS Excavation - Soil Contamination WELL WELL OTHER	HOSPAH FIELD				
2. Name of Operator B C & D Operating, Inc.	8. Well No.				
3. Address of Operator P.O. Box 5926, Hobbs, NM 88241	9. Pool name or Wildcat				
4. Section 1 Township 17N Range 9W Section 6 Township 17N Range 8W SEction 7 Township 17N Range 8W					
10. Elevation (Show whether DF, RKB, RT, GR, etc.)					
11. Check Appropriate Box to Indicate Nature of Notice, R	eport, or Other Data				
NOTICE OF INTENTION TO: SUE	SEQUENT REPORT OF:				
TEMPORARILY ABANDON CHANGE PLANS					
PULL OR ALTER CASING					
OTHER: OTHER: Complet	ion of Excavation				
12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, incluwork) SEE RULE 1103.	ding estimated date of starting any proposed				
The settling ponds (pits) and arroyos were excavated	associated with the				
Sandoval Arroyo in the Hospah Field to under 100 part	s per million (ppm)				
of Total Petroleum Hydrocarbons (TPH). The BTEX leve	ls were well under the				
"Unlined Surface Impoundment Closure Guidelines". Th	e excavated material				
(soil), spproximately 15,000 cubic yards was removed	to the old land strip				
located in Section 1, T17N, R9W.*					
*Upon approval of centralized landfarm permit, remedi	ation will commence.				
I hereby certify that the information above is true and complete to the best of my knowledge and belief.	DATE 10/6/93				
TYPE OR PRINT NAME DONNIE Hill	(505) TELEPHONE NO. 392-2041				
(This space for State Use)					
APPROVED BY TITLE	DATE				
CONDITIONS OF APPROVAL, IF ANY:					

	Con	fined	Space	En	itry	Perm	it	Effective Date Commencing: Expiring: Time Removed	d:	/
	Lease (OCS	-)				Facility			Vell:	
	Worksite	/		Block		Platform				
i i	Division					Area:		SubArea:		
er	Hot Work Pe	mit Required				Hot Work Per	nit number:			
a	Hazardous m	naterial (last produc	t contained):					MSDS(s) availa	able: DYer	
	Work Descrip	>ton:						_ MSDS(s) Local	ion:	
	Condition	ns of Area/Ec	uipment Pri	or to C	onfined	Space Entr	y Write t	nitials or N/A (not a	applicable) i	n column
				intel:	Y N	•			putini:	Yes No
	Out of service	Ð		• • • • • • • • •	x	Ventilation equ	ipment operating			NA
	Confined spa	ce emptied	•••••	• • • • • • • •	x	Intrinsically-sal	e explosion-proof	lighting		NA
			•••••	••••	x	Nearby area d	hecked for hazard	•	•••••	x
	Lines Nunded	RE Checked	• • • • • • • • • • • • • • • • • • •	••••	<u>x</u>	Warning signs		• • • • • • • • • • • • • • • • •		<u>x</u>
S	Lockout/taoo	it procedurer follow	li an	• • • • • • • • •	.X	NODIEC ATECIE	o employees		•••••	X
N N	Explosion-pro	of equipment used		•••••	X	Standby perco	nmunication estat	xisnec		×
) ě	Nonexplosion	-proof equipment lo	cation checked	• • • • • • • • •		Standby persor	's name:	Š.T.		
10	Fire extinguis	her and first-aud kit	present			Rescue plan re	viewed			x
]	Personal prot	ection equipment lis	sted below ready .		· A	Water washed/	displaced with wat	bar		NA
	Respiratory p	otection required .	••••••	• • • • • • •	x	Vessel steame	J		["	NA
· ·	Atmospheric r	nonitoring (continue	ous preferred)		x	Initial cleaning	done from outside	·	[NA
	O, (>19.5	% but <23.5%)	• • • • • • • • • • • • • • • •	• • • • • • • •	x	Other:				NA
[: .	L.E.L. (0.)	0% desired, < 10.0 	% required)		<u>x</u> .	Entrants trained	fand briefed	••••••	· · · · · · · L	NA
Ì	H,S (<pe< td=""><td>JILV)</td><td>•••••</td><td></td><td>.x</td><td>Entrant's Name</td><td>s5.1.</td><td></td><td></td><td></td></pe<>	JILV)	•••••		.x	Entrant's Name	s5.1.			
	Other	••••••••••••••	• • • • • • • • • • • • •		X			· · · ·	-	
	Personal	Protocius E.		I		1		te luce a statistic film.co		i navit na
ш	Ears/Eyes	Externities	Body Suits	Respirat	or	Rescue	Fire Protection		Other: wri	te in
đ	D Googgies D Face Shaid D Ea: phos D Ea: mvHs Z Salery gaases	D Boots D Boots D Avod skin Somect	BCoversits DFreenstandant DPVC sut DFuty. encapsulated	ID SCBA ID Airline (w egree ID Panicular (HEP)	rich sbottie) te rang. A)	D Salety bet D Lidetre D Harness D Alem Hom D Trood unit	DEtingusher DEre tose DBiantet DSheld	D Wet down area D Cover drain D Fire welch		
4	Time	Oxygen (%)	L.E.L. (%)	H.S	(pom)	Toxic/Other write in:		instrument Number(s)	Person	esting
ŝ	9:00	20.1	0	1 0		N/A	N/A	LR81532	СТ	
JI:	10:00	20.1	0	<u> </u>	••••••					
S	12:00	20.1	0	Ö		<u> </u>		_		
He	1:00	20.1	0	Ő						
34	3:00	20.1	0	0						
ĕ	4:00	20.1	0	0						·····
	5:45	20.1	0	0					· · ··· ··· · ··· · · · · · · · · · ·	
]	1		· · · · · · · · · · · · · · · · · · ·				
		.I		L						
Additiona	al Precautions:									
Additiona	al Precautions:									
	al Precautions:	ere this work is to I	be done has been	examined,		Job completed .		·····	D Yes	E No
	al Precautions: The location wh necessary preca	ere this work is to l autions taken, and j	be done has been permission is gran	examined, ted for this	work.	Job completed .			C Yes	₽ No
Addition:	al Precautions: The location wh necessary preca	ere this work is to l Lutions taken, and j Insture)	be done has been permission is gran	examined, ted for this	work.	Job completed . Notified superviso	or of completion .		C) Yes	JET No JET No
Ignature	The location wh necessary preca	ere this work is to l autions taken, and g gnature;	be done has been permission is gran	examined, ted for this	work.	Job completed . Notified superviso	er of completion .		C Yes	JETNO JETNO

	Con	fined	Space	En	ntry	y Pern	nit	Effective Data Commencing Expiring: Time Remove	e. (/	AL
	Lease (OCS-)				Facility		Tank Battery/	Well.	
~	Worksite	, <u> </u>		Block		Platform:		Rig:		
Ē	Division					Area:		SubArea:		
eri	Hot Work Per	mit Required				Hot Work Pe	mit number:			
٩	Hazardous m	aterial (last produc	ct contained):					MSDS(s) avai	lable: 🖸 Y	• •
•	Work Descrip	tion:						MSDS(s) Loca	tion:	
	Condition	ns of Area/E	quipment Pric	or to C	onfin	ed Space En	try Write	initials or N/A (not	applicable)	in colun
·				intal:	Yes	No			britini:	Yes
	Out of service		· · · · · · · · · · · · · · · · ·		x	Ventilation ec	ulpment operating		• • • • • • • •	N
	Confined space	pe emptied	· · · · · · · · · · · · · · · · · · ·	•••••	x	Intrinsically-si	ele explosion-proo	flighting		.N
		present	•••••	••••	ļ	X Nearby area	checked for hazar	1 3	•••••	<u>x</u>
ب	Lines block	monound aluman		•••••	[X	Warning sign	5 posied	••••	•••••	<u> </u>
S	Lockoutian	t procedures talla	u	••••	.×			hickor	• • • • • • • • •	⊢ ×
ť	Explosion-proc	of equipment used		•••••	.×	Standby nerty	on present and that	ined	•••••	<u> </u>
Õ	Nonexplosion-	proof equipment k	ocation checked		∧ .	Standby pers	n's name:	S.1	ſ <u>.</u>	
5	Fire extinguish	er and first-aid kit	present		 	Rescue plan I	eviewed			x
	Personal prote	ction equipment li	sted below ready .	• • • • • • • •	v	Water washed	Vdisplaced with wa	atər		N
	Respiratory pr	otection required	· • • • • • • • • • • • • • • • • • • •			X Vessel steam	eđ	•••••		N A
	Atmospheric m	nonitoring (continu	ous preterred)	• • • • • • • •	x	Initial cleaning	done from outsid	Ð		N A
	O, (>19.5	% but <23.5%)	•••••		x	Other.				N /
•		7% desired, < 10.0	% required)		x	Entrants traine	id and briefed			N Z
	I M.S («PF)									
	NORM		•••••		x	Entrant's Nam	es	<u> </u>		
	NORM	•••••	•••••	· · · · · · · · · · · · · · · · · · ·	x	Entrant's Nam	esS			
	NORM Other: Personal	Protective E	quipment (Mar	t. Required	d liems)	Entrant's Nam	esS	•T.		
	NORM Other: Personal (Ears/Eyes	Protective E	Quipment (Mar Body Suite	k Required	d liems)	Entrant's Nam	Fire Protection	•T• 	Other: w	rite in
]	NORM Other: Personal Ears/Eyes Discognes D	Protective Ed Extremities Discuss Disc	QUIDMENt (Mar Body Suits DEcoronals DEfree mardent DEVC and DEver encaps dated	k Required Respirat D SCBA D Aintre (n epres (HEP)	d lagms) of lagms) of the second	Rosoue Normal Rosoue Diverse Diferent Different Differ	Fire Protection Estinguisher DEstinguisher DEstinguisher DEstinguisher DEstinguisher DEstinguisher DEstinguisher DEstinguisher	D Wet down area D Carer drain D File welch	Other: w	rite in
	NORM Other: Personal (Ears/Eyes Drace sheet DEar photo DEar p	Protective Ed Extremities Discus Di Discus Discus Discus Discus Discus Discus Discus Discus D	QUIDMENT (Mar Body Suits DCoversis DFor mandant DFVC suit DFVC suit Coversis L.E.L. (%)	k Required Respirat DSCBA DAmme (me epres Perscula (HEP)	d laems) or e borlie) e borlie) e preso A)	Rescue Distory ben Distory ben Distorne	Fire Protection Fire Protection DEstroyue her Defree hose DBlanker DSheet NORM µRs/CPM	Wet down are D Caver drain Fire watch	Other: w	rite in Testing
	NORM Other: Personal Ears/Eyes Discores Disc	Protective Ed Extremities Discus Disc	Quipment (Mar Body Suits DEcororate DEFree mandant DEFC and DEfuty or cape whered L.E.L. (%)	k Required Respirat DSCBA DAintre (m Gora DParticular (HEP)	d litems) or eh e borile) is resp. A)	Rescue District Nam District State District State D	Fire Protection Fire Protection DEstriguester DEstriguester DEstriguester NORM µRs/CPM	D Wet down ares D Caver drain D Fire watch	Other: w	rite in Testing
	NORM Other: Personal Ears/Eyes Discorption Fairs Shart Discorption Statery games Time 10:00 12:00	Protective Ed Extremities Discuss Diversion Di	QUIDMENT (Mar Body Suits DFremeratert DFVC ext DFuty ercaps dated L.E.L. (%) 0 0	k Required Respirat DSCBA DArrive (n Particular (HEP) CO O	d læms) or s borlie) is resp. A) (ppm)	Rescue Rescue Distory bet Distory bet Di	Fire Protection Fire Protection Estingue her Estingue her Blanker Blanker Blanker NORM NORM NORM	Wet down eres Derer dran Fire welch	Other: w	rite in Testing
	NORM Other: Personal I Ears/Eyes Discortion Dif and physic Discortion Dis	Protective E Extremities Discu	QUIDMENT (Mur Body Suits DCoversis DFVC suit DFVC suit Futy encase dated L.E.L. (%) 0 0 0	k Required Respiration Daring to SCBA Daring to SCBA DA SCBA DA SCBA DA SCBA DA SCBA DA SCBA SCBA DA SCBA SCBA SCBA SCBA SCBA SCBA SCBA SCB	d læms) or ebnie) A) (ppm)	Rescue Distory per Distory per	Fire Protection Fire Protection Erreguener Blanker Blanker NORM µRs/CPM	Wet down area Cover train Fre watch Instrument Number(s)	Other: w	rite in Testing
	NORM Other: Personal Ears/Eyes Decores Dec	Protective Ed Extremities Discus Di Discus Discus Discus Discus Discus Discus Discus Discus D	Quipment (Mar Body Suits D Coversis D Free marked D Foot D Foot encaps dated L.E.L. (%) 0 0 0	k Requirec Respirat DSCBA DArine (tre egras DArine (tre egras tre eg tra tre egras tre egras tre egras tre eg tre ter eg tre eg tre ter e ter e ter e ter e ter e ter e ter t t e t t t t	d terms) or with (ppm)	Entrant's Nam Entrant's Nam Rescue Didene	Fire Protection Fire Protection Estrepus her Fire hose Blankit NORM µRs/CPM	Wet down ore Cover drain Fire watch	Other: w	rite in Testing
	NORM Other: Personal Ears/Eyes Decores Fact photo Design passes Time 10:00 12:00 2:00 4:00	Protective Ed Extremities Discuss Difference	QUIDMENT (Mar Body Suits DEversite DEversite DEversite DEversite Care deversite L.E.L. (%) 0 0 0	k Required Respirat DSCBA DAintre (m Original Perioda H4S 0 0 0	d terms)	Rescue Dialery ben Dialers Dia	Fire Protection Fire Protection Estinguisher DFre Nose Blank DBank UShedi NORM URs/CPM	D Wet down area D Carer drain D Fire weich	Other: w	Testing
	NORM Other: Personal I Ears/Eyes Discoption Dif and Shard Discoption Time 10:00 12:00 2:00 4:00	Protective Ed Extremities Disce Disc	QUIDMENT (Mar Body Suits DFremmardant DFree mardant DFor excess dated L.E.L. (%) 0 0 0	k Required Respiration DSCBA DArrive (to Dentation (HEP) (HIS) 0 0	d litems) or with a borlie) is reap. A) (ppm)	Entrant's Nam	Fire Protection Fire Protection Fire Protection Fire Protection Bianter Bianter NORM µRs/CPM	Wet down area Dever then Fire watch	Other: w	Testing
	NORM Other: Personal 1 Ears/Eyes Discorting Discort	Protective Ed Extremities Discus Di Discus Discus Discus Discus Discus Discus Discus Discus D	QUIDMENT (Mur Body Suits DEcoronals DEfre mandant DEver excess dated L.E.L. (%)	k Required Respirat DSCBA DAmme (the egras of the Perturber (the P) 0 0	d læms) or kih s borie) A)	Entrant's Nam	Fire Protection Fire Protection Erreguener Blanker Blanker NORM µRs/CPM	Wet down area Cover train Fre watch Instrument Number(s)	Other: w	Testing
	NORM Other: Personal I Ears/Eyes Discords Sheet Discords Sheet Discord	Protective E Extremities Discu	Quipment (Mar Body Suits D Coversits D Free marked D Foot and D Foot encaps dated L.E.L. (%) 0 0 0	k Requirec Respirat DSCBA DArine (tre egras DArine (tre egras tre eg tre egras tre eg e t e t e e t e t e e e t e t e e t e t e e t e t e e t e t e t e t e e e t e t e e t e t e t e e e e e e t e e e e t e e e e t e e e e t e e e e e t e e e e t e	d terms) or with (ppm)	Entrant's Nam	Fire Protection Fire Protection DEstrepted NORM PRS/CPM	Mer down are Caver drain Fire watch	Other: w	Testing
	NORM Other: Personal Ears/Eyes Decore Fact photo Design passes Time 10:00 12:00 2:00 4:00	Protective Ed Extremities Discrete Differenc	QUIDMENT (Mar Body Suits DEcoronals DEFree matrices DEFree and DEFree encaps dated 0 0 0	k Required Respirat DSCBA DAintre (m equa Particula HLS 0 0 0	d terms) or rith (ppm)	Entrant's Nam	Fire Protection Fire Protection Estreguener Blanker NORM URs/CPM	Wet down ore Cover drain Cover drain Fre watch	Other: w	Teting
	NORM Other: Personal Ears/Eyes Decorption Fact physic Destroy gases Time 10:00 12:00 2:00 4:00	Protective Ed Extremities Discuss Di Discuss Discuss Discuss Discuss Discus Discuss Discuss Di	QUIDMENT (Mar Body Suits DEcoremin DEPTC and DECOREMENT DEPTC and DECOREMENT OCCUPTION OCCUPITION OCCUPITION OCCUPTION OCCUPTION OCCUPITION OCCUPI	k Required Respirat DSCBA DAintre (m Perioda H4P 0 0 0	d terms)	Entrant's Nam	Fire Protection Fire Protection Estreputer NORM NORM NORM NORM	Wet down one Cover drain Cover drain Fire watch	Other: w	Testing
	NORM Other: Personal 1 Ears/Eyec Discoption Dif and physic Discoption Difference Discoption Difference Discoption Difference Discoption Difference Discoption Dis	Protective Ed Extremities Disce Disce Disce Diversion Di	QUIDMENT (Mur Body Suits DCoversits DFrom markent DFrom Four excess dates L.E.L. (%)	k Required Respirat DSCBA DArine (tree egras D'Perturis (HEP) 0 0 0	(ppm)	Entrant's Nam	Fire Protection Fire Protection Errequence Blanker NORM µRs/CPM	D Wet down are D Caver drain D Fre watch Sins trument Number(s)	Other: w	Testing
bona	NORM Other: Personal Ears/Eyes Decore Face shart Des photo Des	Protective Ed Extremities Discuss Disc	QUIDMENt (Mar Body Suits DEcoremin DEPCE and DEUT occasionation DEUT O O O O O O O O O O O O O O O O O O O	k Required Respirat DSCBA DAintre (m Original Patients Hys O O O O O O O O O O	d terms) or rith (ppm) (ppm) work.	Entrant's Nam	Fire Protection Fire Protection Estreguener NORM NORM NORM NORM Fire Protection NORM Fire Protection NORM Fire Protection Fire Pro	Wet down ore Cover drain Cover drain Fre watch	Other: w	
	NORM Other: Personal Ears/Eyes Decopy Face physic Design Date: physic Design De	Protective Ed Extremities Discus Di Discus Discus Discus Discus Discus Discus Discus Discus D	QUIDMENt (Mar Body Suits DECoversits DEFree mardiant DEPVC and DEVT excaps dated (LE.L. (%) 0 0 0 0 0	k Required Respirat DSCBA DAintre (m Particular Particular (HEP) 0 0 0 0	d terms) or righ e borlie) is resp. (ppm)	Entrant's Nam	Fire Protection Fire Protection Estroyation NORM NORM NORM Sheet Sor of completion	Wet down ore Caver drain Caver drain Fire watch Number(s)	Other: w	Testing

	Con	fined	Space	e En	ntry	Perm	nit	Effective Date. Commencing: Expiring: Time Removed	(/ J	/
	Lease (OCS-)				Facility		Tank Battery/M	/ell:	
~ 4	Worksite			Block:		Platform:		Rig:		
Ĩ	Division					Area		SubArea:		
er	Hot Work Per	mit Bequired			•	Hot Work Per	mit number:			
0 .	Hazardous m Work Descrip	aterial (last production:	t contained):	·····		· · · · · · · · · · · · · · · · · · ·		MSDS(s) availa MSDS(s) Locat	ble: ⊡Yi ion:	ins 🖸 No
	Condition	ns of Area/Ec	uipment Pri	or to C	onfined	Space Ent	Ŋ ₩rite	initials or N/A (not a	pplcable)	in column
				intal;	Yes Ne	,			Initial:	Yes No
	Out of service	•••••	•••••		x	Ventilation eq	ulpment operating	· · · · · · · · · · · · · · · · · · ·	••••	-N
	Confined spar	ce emptied	•••••	••••••	x	Intrinsically-sa	te explosion-prool	lighting	• • • • • • •	NA.
			•••••	••••	x	Nearby area c	hecked for hazard	*	••••	X
	I incre binder	PERCENCIAL CONSIGNATION	• • • • • • • • • • • • • •	••••	x	Warning signs	posied	••••••••••	• • • • • • •	- <u>×</u>
2	Lines Dinded,	. removed, plugged		• • • • • • • • •	<u></u>	NOTING ATIEC	empioyees		• • • • • • •	<u>x</u>
X	Explosion-mo	of acuioment word		• • • • • • • • •	. <u>x</u>	Standbur men		ineri	•••••	- <u>×</u>
ĕ	Nonexplosion	-proof equipment in	cation checked	• • • • • • • • •	X	Standby perso	ivi biezour auch nar I	S.T	•	
5	Fire extinguist	her and first-aid kit	present	• • • • • • • • •	X	Rescue plan n	eviewed .			x
-	Personal prote	action equipment lis	ted below ready		X	Water washed	Vdisplaced with wa	atar		NA
	Respiratory pr	otection required	•••••••••••••		x	Vessel steame				NA
	Atmospheric n	nonitoring (continue	ous preterred)		x	Initial cleaning	done from outside	Ð		NA
	O, (>19.5	% but <23.5%)			x	Other:				NA
	L.E.L. (0.0	0% desired, < 10.0	% required)		x	Entrants traine	d and briefed	•••••		NA
	H,S (<pe< td=""><td>UTLV)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></pe<>	UTLV)								
	1		•••••			Entrant's Nam	esS	<u>. T</u>		
	NORM	••••••	•••••	••••	xx	Entrant's Nam	es S	• <u>T</u> •		
	NORM Other: Personal	Protective E	quipment (Ma	rk Require	d items)	Entrant's Nam	es S	•T	-	
—— Ш	NORM Other: Personal Ears/Eyes	Protective Ed	Quipment (Ma Body Suits	rk Require Respirat	d items)	Entrant's Nam	Fire Protection	ч.Т.	- Other: w	rrite in
ЪрЕ	NORM Other: Personal Ears/Eyes D Googles D Face Sheet D Ear muts D Ear muts D Ear muts D Salery guases	Protective Ed Extremities D Gloves D Hard hals D Hard hals D Avaid skin scoreact	QUIDMONT (Ma Body Suits DEcornals DECornals DECornals DECornals DECornals DECornals DECornals DECornals DECornals DECornals DECornals DECornals DECornals	Respirat Respirat DSCBA DAritres (c Partoute (HEP	d (parms) tor with is bottle) its resp. (A)	Rescue Distory bet Distory bet Differes Differes Differents Differ	Fire Protection Estinguisher DEstinguisher DEstinguisher DEstinguisher DEstinguisher DEstinguisher DEstinguisher DEstinguisher DEstinguisher	D Wet down area D Cover drain D Fre weigh	Other: w	rrite in
Ърд	NORM Other: Personal Ears/Eyec Disconstruct Disconstr	Protective E(Extremities Distrem Dist	QUIDMONT (Ma Body Suits Deversits DEversits DEVC sut DEVC	rk Require Respirat Discea Daine (s Penicula (HEP	d læms) tor with ss borile) is resp. (ppm)	Roscue Dalery bet Didene Diferent Diferent Diferent Diferent Toxic/Other write in;	Fire Protection Estinguisher D Fire Noise D Blanker D Blanker D Sheet NORM µRs/CPM	D Wet down area Cover drain D Fre wetch Instrument Number(s)	Other: w	rrite in
BPE	NORM Other Personal Ears/Eyec DEars/Eyec DEar mode DEar mode DEar mode DEar mode DEar mode DEar mode DEar mode DEar mode DEar mode	Protective E(Extremities Boors D Avrd hats D Avrd skin Sovect Oxygen (%) 20.1	QUIDMONT (Ma Body Suits Decorrais Development Developm	rk Require Respirat DSCBA DArine (t SCBA DArine (t Partoute (HEP	d (berns) tor tor (ppm)	Rescue District bet District	Fire Protection DEstinguisher DFre None DBlanker DBlanker DBlanker NORM µRs/CPM N/A	D Wet down area D Cover drain D Fre watch ins trument Number(s) LR81532	- Other: w Person	rrite in Testing
	NORM Other: Personal Ears/Eyec Drace Sheld DFair Page Dear man Dear Man	Protective Ec Extremities Discus Disc	QUIDMONT (Ma Body Suits DEcornals DEFORMATION DEVICE out DEFUTY encape utsted L.E.L. (%) 0 0	rk Require Respirat DSCBA DArive (BPArtoute DPArtoute (HEP	d (perms) tor tor (ppm) 0	Rescue Dislery bet Dislery bet Distances Dista	Fire Protection Estinguisher Blanker Blanker NORM µRs/CPM N/A	D Wet down area D Cover drain D Fre watch Instrument Number(s) LR81532	- Other: w	rrite in Testing
sults PPE	NORM Other: Personal Ears/Eyec Deprose Face Sheld DE physics Dear	Protective E(Externities Discus Di Discus Discus Discus Discus Discus Discus Discus Discus D	QUIDMONT (Ma Body Suits DEcornals DEcornals Device aut Device aut	rk Require Respirat DSCBA DAritre (t Partoule (HEP	d (perms) tor tor (ppm) (ppm)	Rescue Distory bet Difference Dif	Fire Protection DEstinguisher DEstinguisher DEstinguisher DEstinguisher DEstinguisher DEstinguisher NORM WRs/CPM N/A N/A	D Wet down area D Cover drain D Fre watch Number(s) LR81532	- Other: w	Teting
Hesuits PPE	NORM Other: Personal Ears/Eyec Dear Shed DEar Physic Dear Shed DEar Physic Dear Shed DEar Physic Dear Shed DEar Shed Shed Shed Shed Shed Shed Shed Shed	Protective E(Extremities Distreme Scotte Distreme Scotte Distreme Scotte Distreme Scotte Distreme Distreme Scotte Distreme Distr	QUIDMENT (Ma Body Suits DEcombine DFormation DFVC and DFVC and DFV	rk Require Respirat D SCBA D Aintre (t SCBA D Aintre (t E Particula (HEP	d Items) tor with is bottle) ite resp. (ppm) D D D	Rescue Disting bet Disting bet Disting bet Disting Differents Differents Differents Differents Differents N/A N/A	Fire Protection Estinguisher D Fire Noise D Blanker D Blanker D Sheet NORM µRs/CPM N/A	D Wet down area D Cover drain D Fre wetch Instrument Number(s) LR81532	Other: w	rrite in Testing
It Hesuits ppE	NORM Other Personal Ears/Eyec Dface Sheld Dface Sh	Protective E(Extremities Discus Discus Divertises Divertises Divertises Divertises Oxygen (%) 20.1 20.1 20.1 19.9 19.9	QUIDMENT (Ma Body Suits DEcorrela DEversita DEVC suit DEVC suit DE	rk Require Respirat Discea Daine (s Penicula H ₂ S	d Isems) tor tor (ppm) (ppm) () () () () () () () () () (Roscue Roscue Salery bet Lideane Harnes Dann Hom Feel ad ki Toxic/Other write in: N/A	Fire Protection Fire Protection Estinguisher Blanker NORM NORM NA N/A N/A	Wer down area Cover drain D Fre weich Instrument Number(s) LR81532	- Other: w	rrite in Testing
est Hesults ppE	NORM Other Personal Ears/Eyec Decorpter De	Protective E(Extremities D Gloves D Boots D Aved skin connect Oxygen (%) 20.1 20.1 19.9 19.9	QUIDMONT (Ma Body Suits Decorrelia Decorrelia Decorrelia orcepoulated L.E.L. (%) 0 0 0 0	rk Require Respirat DSCBA DAritre (GParticula DParticula (HEP (HEP	d (perms) tor with is borlie) (ppm) 0 0 0 0 0 0 0 0 0 0 0 0 0	Rescue Rescue Salery bet Different ad M Toxic/Other write in: N/A	Fire Protection Estinguisher D Fire Name Blanker NORM µRs/CPM N/A N/A	D Wet down area D Cover drain D Fre watch Sins trument Number(s) LR81532	Other: w	rrite in
I BSI HESUITS PPE	NORM Other Personal Ears/Eyec Description Descript	Protective E(Externities Discus Discus Dividiation Scorect Oxygen (%) 20.1 20.1 20.1 19.9 19.9	QUIDMONT (Ma Body Suits Drownin Druty encapsulated L.E.L. (%) 0 0 0 0	rk Require Respirat DSCBA DArive (Paricula DParicula (HEP	d (perms) tor tor (ppm) 0 0 0 0 0 0 0 0 0 0 0 0 0	Rescue District Market District States Differences Dif	Fire Protection Estinguisher Blanker Blanker NORM WRs/CPM N/A N/A	B Wet down area B Cover drain D Fre watch Instrument Number(s) LR81532	- Other: w	Testing
I dat Hesuits ppE	NORM Other Personal Ears/Eyec Dear Shed Dear Shed De	Protective E(Extentions Distant Dista	QUIDMENT (Ma Body Suits Decommendant DPVC sut DFUC SUT DF	rk Require Respirat DSCBA DAinre (t EPartoute HyS (t C) C) C) C) C) C) C) C) C) C) C) C) C)	d items) tor with is bottle) ite map (ppm) 0 0 0 0 0 0 0 0 0 0 0 0 0	Rescue Rescue Salery bet Difference Ausom Horn Fore ad M Toxic/Other write in: N/A	Fire Protection DEstinguisher DEstinguisher DEstinguisher DEstinguisher DEstinguisher NORM WRs/CPM N/A N/A	D Wet down area D Cover drain D Fre watch Number(s) LR81532	- Other: w	Teting
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STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

DRUG FREE

POST OFFICE BOX 2088

STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO 87504

(505) 827-5800

BRUCE KING GOVERNOR

ANITA LOCKWOOD CABINET SECRETARY

November 4, 1993

CERTIFIED MAIL RETURN RECEIPT NO. P-667-242-404

Mr. Donnie Hill BC & D Operating, Inc. P.O. Box 5926 Hobbs, New Mexico 88241

RE: SOIL REMEDIATION COMPLETION REPORT BC & D OPERATING, INC. HOSPAH FIELD MCKINLEY COUNTY, NEW MEXICO

Dear Mr. Hill:

The New Mexico Oil Conservation Division (OCD) is in the process of reviewing the BC & D Operating, Inc. October 6, 1993 "COMPLETION OF EXCAVATION AT HOSPAH FIELD, MCKINLEY COUNTY, NEW MEXICO". This report documents the results of the remediation of contaminated soil from the arroyo and two settling ponds adjacent to BC & D Operating's tank batteries in the Hospah Field.

The OCD has the following comments, questions and requests for information regarding the above referenced report:

- 1. The report does not contain any diagrams or maps delineating the limits and depths of the excavated areas and the sample locations. Please provide OCD with this information.
- 2. The soil sample analytical results for total petroleum hydrocarbons (TPH) do not indicate what method was used for the laboratory analysis of the soils. Please provide OCD with this information.
- 3. The report does not contain any descriptive information regarding the remedial activities, sample collection methods and the sampling points. Please provide this information.

Mr. Donnie Hill November 4, 1993 Page 2

4. The report states that soils were excavated to below 100 parts per million (ppm) of TPH. However, the soil analytical results contain results in excess of 100 ppm of TPH. Were these soils excavated after these measurements were taken or do they represent the final levels attained during remediation? Please clarify what these samples represent.

Submission of the above information will allow OCD to complete a review of your remedial action report.

If you have any questions, please contact me at (505) 827-5885.

Sincerely,

William C. Olson Environmental Bureau Chief

Enclosure

xc: OCD Aztec Office

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



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Mr. Donnie Hill November 4, 1993 Page 2

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STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO 87504

(505) 827-5800



ANITA LOCKWOOD CABINET SECRETARY

October 13, 1993

<u>CERTIFIED MAIL</u> <u>RETURN RECEIPT NO. P-667-242-016</u>

Mr. Donnie Hill BC & C Operating, Inc. P.O. Box 5926 Hobbs, New Mexico 88241

RE: CENTRALIZED LANDFARM, HOSPAH FIELD OCD RULE 711 PERMIT APPROVAL MC KINLEY COUNTY, NEW MEXICO

Dear Mr. Hill:

The permit application for the BC & D Operating, Inc. Centralized Landfarm located in the SE/4 NE/4, Section 1, Township 17 North, Range 9 West, NMPM, McKinley County, New Mexico, is hereby approved in accordance with the Oil Conservation Division (OCD) Rule 711 under the conditions contained in the enclosed attachment. The application consists of the original application dated August 30, 1993.

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. In addition, the OCD approval does not relieve you of liability for compliance with any other laws and/or regulations.

Mr. Donnie Hill October 13, 1993 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 October 13, 1998 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,

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William J. LeMay Director

WJL/kmb

Attachment

xc: Denny Foust, OCD Aztec Office
 Jim Walker, U.S. EPA Region IX
 Sadie Hoskie, U.S. EPA Navajo Nation Division
 Chris Shuey, Southwest Research and Information Center

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ATTACHMENT TO OCD 711 PERMIT APPROVAL B C & D OPERATING, INC. CENTRALIZED LANDFARM (October 13, 1993)

LANDFARM CONSTRUCTION

- 1. A fence will be constructed and maintained around the perimeter of the facility so as to prevent livestock and people from entering the facility area.
- 2. A sign will be posted on the fence at the entrance to the facility. The sign will be legible from at least fifty (50) feet and contain the following information: a) name of the facility, b) location by section, township and range, and c) emergency phone number.
- 3. An adequate berm will be constructed and maintained to prevent runoff and runon for that portion of the facility containing contaminated soils.
- 4. No contaminated soils will be placed within fifty (50) feet of any pipelines crossing the landfarm. In addition, no equipment will be operated within ten (10) feet of a pipeline. All pipelines crossing the facility will have surface markers identifying the location of the pipelines.
- 5. All aboveground tanks located at the landfarm and containing materials other than fresh water will be bermed to contain one and one third the volume of the largest or all interconnected tanks.

LANDFARM OPERATION

- 1. The facility will be secured when no attendant is present.
- 2. Soils will be spread on the surface in one foot lifts or less provided that the disking equipment can turn over the entire lift.
- 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.

BC & D Attachment October 13, 1993 Page 2

- 5. The facility is authorized to accept only:
 - a. Soils excavated from the closure of the two settling ponds adjacent to BC & D Operating's tank batteries and the associated arroyos at the Hospah Field.
 - b. Oilfield contaminated solids which are exempt from RCRA Subtitle C regulations and which are from BC & D owned operations. Tank bottoms may only be accepted on a case-by-case basis after conducting appropriate analyses and receiving OCD approval.
- 6. Moisture will be added as necessary to enhance bioremediation and to control blowing dust. 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. Microbes (MICRO-BLAZE) may be utilized to enhance bio-remediation. Records will be made and kept on the location, amount and frequency of the microbes applied.
- 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. The records for each load will include: 1) the origin, 2) date received 3) quantity, and 4) exact cell location and any addition of microbes, moisture, fertilizers, etc.

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 prior to operation. The sample will be analyzed for total petroleum hydrocarbons (TPH), major cations/anions, volatile aromatic organics (BTEX), and heavy metals using approved EPA methods.
- 2. A treatment zone not to exceed three (3) feet beneath the land farm will be monitored. A minimum of one random soil sample should be taken per 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 using approved EPA methods for TPH and BTEX quarterly, and for major cations/anions and heavy metals semi-annually the first year and annually thereafter.
- 4. After obtaining the soil samples the boreholes will be filled with an impermeable material such as cement.

BC & D Attachment October 13, 1993 Page 3

<u>REPORTING</u>

- 1. Analytical results from the treatment zone monitoring will be submitted to the OCD Santa Fe Office for review within ten (10) days of receipt from the laboratory. The results will be submitted on a regular schedule as determined by the BC & D.
- 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.

CLOSURE

- 1. The operator will notify the Division of cessation of operations. Upon cessation of disposal operations for six (6) consecutive months, the operator will complete cleanup of constructed facilities and restoration of the facility site within the following six (6) months, unless an extension for time is granted by the Director.
- 2. 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.
- 3. Closure will be pursuant to all OCD requirements in effect at the time of closure, and any other applicable local, state and/or federal regulations.



BC & D OPERATING, IN

'93 000 12 AM 9 51

October 6, 1993

New Mexico Oil Conservation Division P.O. Box 2088 Santa Fe, New Mexico 87501

Attn: Mr. Roger Anderson Bureau Chief

RE: COMPLETION OF EXCAVATION AT HOSPAH FIELD, MCKINLEY COUNTY, NEW MEXICO

Dear Mr. Anderson:

Enclosed herewith, is the <u>Completion of Excavation</u> as defined in OCD Form C-103 for the project located in the Hospah Field, McKinley County, New Mexico. Attached to the form are "Site Survey Requests", "Soil Analysis Reports", and "Confined Space Entry Permits", on the excavation of the arroyos and pits which had hydrocarbon contamination in the Hospah Field.

Approximately 15,000 cubic yards of hydrocarbon contaminated soil was excavated and removed from the Sandavol Arroyo and associated settling ponds (pits) and temporarily stored on the old abandoned airstrip, which we have applied for a centralized landfarm facility in Section 1.

If you have any questions or desire further information, please contact the undersigned.

Sincerely,

Donnie Hill President

DH:sn

Enclosure

Submit 3 Copies to Appropriate District Office	State of New Energy, Minerals and Natura	Mexico I Resources Department	•	Form C-103 Revised 1-1-89
DISTRICT I	OIL CONSERVAT	ION DIVISION	WELLAPINO	
P.O. BOX 1980, HODDS, NM 88240	P.O. Box	2088	WELL AFT NO.	_
P.O. Drawer DD, Artesia, NM 88210	Santa Fe, New Mexi	co 8/304-2088	5. Indicate Type of Lease S	
1000 Rio Brazos Rd., Aziec, NM 87410	· ·		6. State Oil & Gas Lease	No.
SUNDRY NOT (DO NOT USE THIS FORM FOR PRO DIFFERENT RESE (FORM C	CES AND REPORTS ON V DPOSALS TO DRILL OR TO DEEL RVOIR. USE "APPLICATION FOR -101) FOR SUCH PROPOSALS.)	VELLS PEN OR PLUG BACK TO A PERMIT	7. Lease Name or Unit A	greement Name
1. Type of Well: OIL GAS WELL WELL	Excavation - So	oil Contamination	HOSPAH F	IELD
2. Name of Operator B. C. S. D. Operating			8. Well No.	
3. Address of Operator	<u>3, IIC.</u>		9. Pool name or Wildcat	
P.O. Box 5926, H	obbs, NM 88241	· · · · · · · · · · · · · · · · · · ·		
4. Section 1 To Section 6 To SEction 7 To	wnship 17N Range 9 wnship 17N Range 9 wnship 17N Range 9	9W BW BW		
	10. Elevation (Show whe	ther DF, RKB, RT, GR, etc.)		
11. Check	Appropriate Box to Indica	te Nature of Notice, R	port, or Other Data	1
NOTICE OF INT	ENTION TO:	SUB	SEQUENT REPC	PRT OF:
			ALTER	
	CHANGE PLANS			
PULL OR ALTER CASING		CASING TEST AND CE		
OTHER:		OTHER: Completi	on of Excavatio	<u>n</u>
12. Describe Proposed or Completed Opera work) SEE RULE 1103.	tions (Clearly state all pertinent detail	s, and give pertinent dates, includ	ling estimated date of startin	g any proposed
The settling pon	ds (pits) and arroyo	s were excavated a	ssociated with	the
Sandoval Arroyo	in the Hospah Field	to under 100 parts	per million (p	opm)
of Total Petrole	um Hydrocarbons (TPH). The BTEX level	s were well und	er the
"Unlined Surface	Impoundment Closure	Guidelines". The	e excavated mate	erial
(soil), spproxim	ately 15,000 cubic y	ards was removed t	o the old land	strip
located in Secti	on 1, T17N, R9W.*			
*Upon approval o	f centralized landfa	rm permit, remedia	tion will comme	ence.
I hereby certify that the information above is true	and complete to the best of my knowledge	nd beid. President	F 4	10/6/93
	 н;11	1181 <u>4</u>	DA	(505) 392-20/1
			19	LEFTILME NU. 372-2041
(1ms space for State Use)				

- TITLE ----

- DATE -

CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY ---



SITE SURVEY

DATE: 08/26/93 CLIENT: B C & D OPERATION FACILITY: HOSPAH

ORDERED BY: D. HILL HOSPAH PIT & DRAW

************* : AM PM DATE OF SPILL: N/A TIME OF SPILL: N/A CLOSE PROXIMITY: YES X NO # OF BARRELS: N/A 9:00 (M) PM DATE CONTACTED: 8/25/93 TIME CONTACTED DATE ON LOCATION: 8/26/93 TIME ON LOCATION 1:00 AM MSUPERVISOR: A. HODGE CLIENT CONTACT: D. HILL SUPERVISOR PHONE: 505/392-6167 CLIENT PHONE: 505/392-2041

REMEDIATION METHOD

___ DILUTION

ENHANCED REMEDIATION

OFF-SITE DISPOSAL

___X___OTHER

OF CU. YDS. USED:
SOURCE OF SOIL:
BACTERIA TYPE:
AMOUNT USED:
DISPOSAL SITE NAME:
MANIFEST #:
MINOR PERMIT #:
Soil excavation of draws and soil test for
TPH to verify contamination has been removed.

SITE SURVEY

DATE: 09/08/93 CLIENT: B C & D OPERATION ORDERED BY: D. HILL FACILITY: SANTA FE & HANSON

WELL# SETTING POND

DATE OF SPILL: N/A TIME OF SPILL: N/A : AM PM **# OF BARRELS:** N/A CLOSE PROXIMITY: YES X NO DATE CONTACTED: 9/07/93 TIME CONTACTED 8:30 AMPM DATE ON LOCATION: 9/07/93 TIME ON LOCATION 2:00 AM PMSUPERVISOR: S. THOMAS CLIENT CONTACT: D. HILL SUPERVISOR PHONE: 505/392-6167 CLIENT PHONE: 505/392-2041

REMEDIATION METHOD

DILUTION

ENHANCED REMEDIATION

OFF-SITE DISPOSAL

OTHER Х

OF CU. YDS. USED: SOURCE OF SOIL: **BACTERIA TYPE:** AMOUNT USED: **DISPOSAL SITE NAME:** MANIFEST #: MINOR PERMIT #: Soil excavation of setting pond and soil test for TPH to verify contamination has been removed.

SUPERVISØR SIGNATURE

SITE SURVEY

DATE: 09/04/93 CLIENT: B C & D OPERATION FACILITY: HOSPAH SAND UNIT

ORDERED BY: D. HILL SETTING POND

***** TIME OF SPILL: N/A : AM PM DATE OF SPILL: N/A CLOSE PROXIMITY: YES X NO **# OF BARRELS**: N/A DATE CONTACTED: 9/01/93 TIME CONTACTED 9:00 (ADD PM 7 : 30 AMPM DATE ON LOCATION: 9/04/93 TIME ON LOCATION CLIENT CONTACT: D. HILL SUPERVISOR: S. THOMAS CLIENT PHONE: 505/392-2041 SUPERVISOR PHONE: 505/392-6167

REMEDIATION METHOD

____ DILUTION

____ENHANCED REMEDIATION

____ OFF-SITE DISPOSAL

__X__ OTHER

OF CU. YDS. USED: SOURCE OF SOIL: BACTERIA TYPE: AMOUNT USED: DISPOSAL SITE NAME: MANIFEST #: MINOR PERMIT #: Soil excavation of setting pond and soil test for TPH to verify contamination has been removed.

Stoney Thomas SUPERVISOR SIGNATURE



FHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TEXAS 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NEW MEXICO 88240

FINAL ANALYSIS REPORT

Company:	Environmental Spill Control, Inc.	Date:	9/21/93
Address	P.O. Box 5890	Lab#:	H1360
City, State:	HODDS, NM 88241-5890		

Project Name: Project Location: Hospah Sampled by: AH Analyzed by: MF Type of Samples:Soil

Date: 9/15/93 Time: Date: 9/20/93 Time: 7:30 Sample Condition: GIST

Units: mg/kg, mg/l

**** Sam <u>p</u> #	•*************************************	********* BENZENE	TOLUENE	********* ETHYL BENZENE	******** PARA- XYLENE	************* META- XYLENE	ORTHO- XYLENE	**************************************
12345678900 1111234 1516	SFRR St.Pt.O' SFRR Arroyo 20' SFRR Arr. 100' SFRR Arr. 300' HSUS Pond 10' HSUS St.Pt. 0' HSU " 100' HSU " 300' HSU " 300' HSU " 900' HSU " 900' HSU " 1200' HSU " 1500' HSU " 1800' HSU " 2100' HSU " 2400'	<pre><0.001 <0.001 <0.001 <0.001 2.297 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001</pre>	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<pre><0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001</pre>	<0.001 <0.001 <0.001 <0.001 0.008 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	$ \begin{array}{c} <0.001 \\ <0.001 \\ <0.001 \\ <0.001 \\ <0.001 \\ 0.020 \\ <0.001 \\ 0.023 \\ <0.001 \\ <0.001 \\ <0.001 \\ <0.001 \\ <0.001 \\ <0.001 \\ <0.001 \\ <0.008 \\ <0.001 \\ <0.008 \\ <0.001 \end{array} $	<0.001 <0.001 <0.001 <0.001 1.171 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001
	QC Recovery	1.802	1.939	1.958	1.914	1.951	2.049	1.398

QC Recovery	1.802	1.939	1.958	1.914	1.951	2.049	1.398	
QC Spike	1.910	1.970	1.970	1.912	1.912	1.939	1.597	
Accuracy	94.3	98.4	99.3	100.1%	102.0%	105.7%	87.4%	
Air Blank	***	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	

Methods - AUTOMATED HEADSPACE GC - EPA SW-846; EPA METHODS 8020

100 les

Date 9/21/93

Michael R. Fowler



PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TEXAS 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NEW MEXICO 88240

FINAL ANALYSIS REPORT

Company:Environmental Spill Control, Inc.Date: 9/23/93Address:P.O. Box 5890Lab#: H1365City, State:Hobbs, NM 88241-5890Lab#: H1365

Project Name: Project Location: Hospah, NM Sampled by: ST Da Analyzed by: MF/HM Da Type of Samples: Soil Sa

i

Date: 9/21/93 Time: 8:40 Date: 9/22/93 Time: 9:30 Sample Condition: GST

Units: mg/kg

****	*****	*******	*******	*******	*******	*******	********	*****
Samp #	Field Code	BENZENE	TOLUENE	ETHYL BENZENE	PARA- XYLENE	META- XYLENE	ORTHO- XYLENE	MTBE
12345678901123456 101123456	0' Hanson Sec.6 20' " 100' " 300' " 600' " 1200' " 1200' " 1500' " 2400' " 900' S.F.Sec.6 1200' " 1500' " 1500' "	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<pre><0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001</pre>	<0.001 <0.001 0.011 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.001 <0.001 0.004 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.001 <0.001 <0.001 <0.001 <0.004 <0.001 0.003 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001

QC Recovery QC Spike	1.988 2.144	2.193 2.212	2.205	2.131 2.147	2.104 2.147	2.210	1.525
Accuracy	92.7%	99.1%	99.7%	99.3%	98.0%	101.5%	85.0%
Air Blank	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001

Methods - AUTOMATED HEADSPACE GC - EPA SW-846; EPA METHODS 8020

Michael R. Fowler

Date 9/23/

6210 Lovington Highway P.O. Box 5890 Hobbs, NM 88240 (505) 392-6167 (800) 390-6167

SOIL ANALYSIS REPORT

DATE: 08/26/93 CLIENT: B C & D OPERATING SUPERVISOR: A. HODGE FACILITY: HOSAH SAND UNIT 1ST OVER FLOW PIT DISCHARGE & ARROYO

	TPH		DEPTH	LOCATION	
SAMPLE NO. 1:	7	PPM	4.5'	30 yds dow	n
SAMPLE NO. 2:	12	PPM	4.5'	40 yds	
SAMPLE NO. 3:	3260	PPM	1'	50 yds	
SAMPLE NO. 4:	43	PPM	4'	50 yds	
SAMPLE NO. 5:	34280	PPM	1'	90 yds	
SAMPLE NO. 6:	66	PPM	. 4'	90 yds	
SAMPLE NO. 7:	27	PPM	4.5'	100 yds	
SAMPLE NO. 8:	19	PPM	1'	200 yds up	from pit background
SAMPLE NO. 9:	20	PPM	4'	110 yds	
SAMPLE NO. 10:	23	PPM	4.5'	120 yds	

COMMENTS: From outdrop to 30 yds needs to be redug because of rain and broken pipeline. Sample # 8 was taken upstream in the draw to get a background for future tests.

6210 Lovington Highway P.O. Box 5890 Hobbs, NM 88240 (505) 392-6167 (800) 390-6167

SOIL ANALYSIS REPORT

DATE: 08/31/93 CLIENT: B C & D OPERATING SUPERVISOR: S. THOMAS FACILITY: HOSAH SAND UNIT

	TPH		DEPTH	LOCATION
SAMPLE NO. 1:	127	PPM	8'	1370'
SAMPLE NO. 2:	284	PPM	10'	1400'
SAMPLE NO. 3:	80	PPM	10'	1430'
SAMPLE NO. 4:	18	PPM	10'	1460'
SAMPLE NO. 5:	27	PPM	10'	1490'
SAMPLE NO. 6:	672	PPM .	10'	1520'
SAMPLE NO. 7:	96	PPM	10'	1550'
SAMPLE NO. 8:	29	PPM	10'	1580'
SAMPLE NO. 9:		PPM		
SAMPLE NO. 10:	:	PPM		

COMMENTS: Skipped section 600' to 1370' because Ceniza has a pipline to close to arroyo. At 1370' the contamination was under about 8" to 10" of silt. The earth is saturated and was a black sludge. Around 10' it started clearing up and tested ok.

FACILITY

ARROYO

6210 Lovington Highway P.O. Box 5890 Hobbs, NM 88240 (505) 392-6167 (800) 390-6167

SOIL ANALYSIS REPORT

DATE: 09/01/93	}		FACILIT	FACILITY: HOSAH SAND UNIT			
CLIENT: B SUPERVISOR:	C & D O S. THOM	PERATING IAS	ARROYO				
	TPH		DEPTH	LOCATION			
SAMPLE NO. 1:	446	PPM	1'	590'			
SAMPLE NO. 2:	27	PPM	5'	600'			
SAMPLE NO. 3:	24	PPM	7"	630'			
SAMPLE NO. 4:	795	PPM	3.5'	660'			
SAMPLE NO. 5:	23	PPM	6.5'	660'			
SAMPLE NO. 6:	32	PPM	6.5'	690'			
SAMPLE NO. 7:	44	PPM	6'	720'			
SAMPLE NO. 8:	46	PPM	6'	750'			
SAMPLE NO. 9:	142	PPM	5'	825'			
SAMPLE NO. 10): 746	PPM	7'	825'			

COMMENTS: Contamination differs in depth and width the farther down the arroyo we go. There is a layer of clay that is stopping contamination from going deeper into the earth. Below that level is clean earth. That same level of clay or layer differs in depth. The width of the ditch is random spots, probably from past spills down the arroyo.
6210 Lovington Highway P.O. Box 5890 Hobbs, NM 88240 (505) 392-6167 (800) 390-6167

SOIL ANALYSIS REPORT

93		FACILI	FACILITY: HOSAH SAND UNIT		
3 C & D O S. THON	PERATIN MAS	IG ARROY	0		
TPH		DEPTH	LOCATION		
l: 476	PPM	9'	825'		
2: 58	PPM	10'	825'		
3: 852	PPM	`4'	855'		
4: 47	PPM	6'	875'		
5: 24	PPM	9'	855'		
5: 423	PPM .	5'	880'		
7: 123	PPM	13'	890'		
8: 97	PPM	3.5'	920'		
9: 56	PPM	4'	950'		
10: 27	PPM	4'	980'		
	3 C & D O S. THON TPH 1: 476 2: 58 3: 852 4: 47 5: 24 5: 423 7: 123 3: 97 9: 56 10: 27	93 8 C & D OPERATIN 11 C & PPM 12 C & PPM	P3 FACILIT 3 C & D OPERATING ARROY 3 C & D OPERATING ARROY S. THOMAS ARROY TPH DEPTH 1: 476 PPM 9' 2: 58 PPM 10' 3: 852 PPM 4' 4: 47 PPM 6' 5: 24 PPM 9' 5: 423 PPM 13' 6: 97 PPM 3.5' 9: 56 PPM 4' 4: 27 PPM 4'		

COMMENTS: Most of the contamination is coming from leaks in Cinizas pipeline. The pipeline is over forty years old. Contamination has been seeping out of pipeline for some time because it starts about three feet under top soil and travels downward and in some places outward as well. There has been leaks that have been cleaned but not to the standards of today. All samples of 9/1/93 were taken not more than 10' away from the pipeline. Excavated 1020 yds.

6210 Lovington Highway P.O. Box 5890 Hobbs, NM 88240 (505) 392-6167 (800) 390-6167

SOIL ANALYSIS REPORT

DATE: 09/02/93	3		FACILI	FACILITY: HOSAH SAND UNIT		
CLIENT: B	C & D O	PERATING				
SUPERVISOR:	S. THON	AAS	ARROY	0		
	TPH		DEPTH	LOCATION		
SAMPLE NO. 1	: 15	PPM	4'	1010'		
SAMPLE NO. 2	: 5	PPM	4'	1040'		
SAMPLE NO. 3	: 13	PPM	4'	1070'		
SAMPLE NO. 4	: 11	PPM	4'	1100'		
SAMPLE NO. 5	: 29	PPM	4'	1140'		
SAMPLE NO. 6	: 222	PPM .	4'	1170'		
SAMPLE NO. 7	: 35	PPM	4'	1200'		
SAMPLE NO. 8	552	PPM	4'	1230'		
SAMPLE NO. 9	82	PPM	5'	1170'		
SAMPLE NO. 1	0: 27	PPM	5'	1230'		

COMMENTS: Ditch cleared up, got into some good earth, nearing the crossover at Ciniza's pipeline. There is about a 4" to 8" layer of black saturated earth, but at 4' to 5' it becomes clean.

6210 Lovington Highway P.O. Box 5890 Hobbs, NM 88240 (505) 392-6167 (800) 390-6167

SOIL ANALYSIS REPORT

FACILITY: HOSAH SAND UNIT DATE: 09/02/93 **CLIENT: BC & D OPERATING** SUPERVISOR: S. THOMAS ARROYO TPH DEPTH LOCATION SAMPLE NO. 1: 17 PPM 4' 1260' SAMPLE NO. 2: PPM 7' 1290' 26 SAMPLE NO. 3: PPM 7' 1320' 24 PPM 9' 1350' SAMPLE NO. 4: 16 SAMPLE NO. 5: 24 PPM 9' 1370' 1400' SAMPLE NO. 6: 29 PPM 10.5' PPM 10.5' 1520' SAMPLE NO. 7: 35 8' 880' SAMPLE NO. 8: 72 PPM SAMPLE NO. 9: PPM SAMPLE NO. 10: PPM

COMMENTS: Passed over Ciniza's pipeline at 1265'. Black sludge is reappearing at 2' to 4'. Bottom is testing ok. Last three tests were hot spots from Monday.

6210 Lovington Highway P.O. Box 5890 Hobbs, NM 88240 (505) 392-6167 (800) 390-6167

SOIL ANALYSIS REPORT

ARROYO

DATE: 09/0393 CLIENT: B C & D OPERATING SUPERVISOR: S. THOMAS FACILITY: HOSAH SAND UNIT

			•	
	TPH		DEPTH	LOCATION
SAMPLE NO. 1:	28	PPM	9'	1610'
SAMPLE NO. 2:	74	PPM	9'	1640'
SAMPLE NO. 3:	98 ·	PPM	9'	1670'
SAMPLE NO. 4:	69	PPM	9'	1700'
SAMPLE NO. 5:	17	PPM	9'	1730'
SAMPLE NO. 6:	10	PPM .	8'	1770'
SAMPLE NO. 7:	38	PPM	8'	1800'
SAMPLE NO. 8:	62	PPM	8'	1830'
SAMPLE NO. 9:	41	PPM	8'	1860'
SAMPLE NO. 10	: 43	PPM	8'	1890'

COMMENTS: Arrayo is getting wider the closer we go to the settling pond. Black sludge is becoming worse. It is now a layer 2' to 4' thick and 6' to 8' wide. In other places the sludge was 4' to 6' thick and 10' to 14' wide. Layer of clay keeps contamination from going any deeper.

6210 Lovington Highway P.O. Box 5890 Hobbs, NM 88240 (505) 392-6167 (800) 390-6167

SOIL ANALYSIS REPORT

DATE: 09/04/93 CLIENT: B C & D OPERATING SUPERVISOR: S. THOMAS FACILITY: HOSAH SAND UNIT

FIRST SETTLING POND & ARROYO

1	PH		DEPTH	LOCATION
SAMPLE NO. 1:	8 6	PPM	8'	1920'
SAMPLE NO. 2:	4	PPM	8'	1950'
SAMPLE NO. 3:	107	PPM	8'	1980'
SAMPLE NO. 4:	20,200	PPM	2'	2000'
SAMPLE NO. 5:	52	PPM	8'	2030'
SAMPLE NO. 6:	9	PPM	. 8'	2050'
SAMPLE NO. 7:	12	PPM	8'	2080'
SAMPLE NO. 8:	9	PPM	8'	2110'
SAMPLE NO. 9:		PPM		
SAMPLE NO. 10:		PPM		

COMMENTS: The settling pond starts at about 1900' down from the pit. At 5' to 6' there is a layer of black sludge and is about 18' to 24' wide. The clay under the sludge held the contamination from going deeper into the earth. At 8' it tests ok.

6210 Lovington Highway P.O. Box 5890 Hobbs, NM 88240 (505) 392-6167 (800) 390-6167

SOIL ANALYSIS REPORT

DATE: 09/05/93 CLIENT: B C & D OPERATING SUPERVISOR: S. THOMAS FACILITY: HOSAH SAND UNIT

SUPERVISOR: S. THOMAS			FIRST SETTLING POND 75' on other side			
	TPH		DEPTH	LOCATION		
SAMPLE NO. 1:	13	PPM	20'	2140'		
SAMPLE NO. 2:	27	PPM	20'	2170'		
SAMPLE NO. 3:	21	PPM	18'	2215'		
SAMPLE NO. 4:	9	PPM	4'	2245'		
SAMPLE NO. 5:		PPM				
SAMPLE NO. 6:		PPM .				
SAMPLE NO. 7:		PPM				
SAMPLE NO. 8:		PPM				
SAMPLE NO. 9:		PPM				
SAMPLE NO. 10:		PPM				

COMMENTS: Fluid from 4 vessels contaminated earth up to 17'. At 20' reached good earth and tested ok. Across drainage there was a little contamination. Spot checked arroyo 300 yds. past the drainage and found no contamination.

6210 Lovington Highway P.O. Box 5890 Hobbs, NM 88240 (505) 392-6167 (800) 390-6167

SOIL ANALYSIS REPORT

DATE: 09/06/93 CLIENT: B C & D OPERATING SUPERVISOR: S. THOMAS FACILITY: SANTE FE

PIT DISCHARGE AND ARROYO

	TPH		DEPTH	LOCATION
SAMPLE NO. 1:	67,00	0 PPM	1'	5'
SAMPLE NO. 2:	794	PPM	1'	35'
SAMPLE NO. 3:	39	PPM	3.5'	65'
SAMPLE NO. 4:	27	PPM	4'	5'
SAMPLE NO. 5:	23	PPM	4'	35'
SAMPLE NO. 6:	17	PPM .	4'	95'
SAMPLE NO. 7:	35	PPM	5'	125'
SAMPLE NO. 8:	14	PPM	5'	155'
SAMPLE NO. 9:	18	PPM	5'	185'
SAMPLE NO. 10:	11	PPM	5'	215'

COMMENTS: The Santa Fe arroyo was a bucket wide and 5' deep. Contamination was 1' to 2' deep. 4' to 5' was good earth and tested ok.

62.10 Lovington Highway P.O. Box 5890 Hobbs, NM 88240 (505) 392-6167 (800) 390-6167

SOIL ANALYSIS REPORT

DATE: 09/06/93 CLIENT: B C & D OPERATING SUPERVISOR: S. THOMAS FACILITY: SANTE FE

SUPERVISOR: S.	THOM	IAS	ARROYO	
7	ГРН		DEPTH	LOCATION
SAMPLE NO. 1:	8	PPM	5'	245'
SAMPLE NO. 2:	11	PPM	5'	275'
SAMPLE NO. 3:	19	PPM	5'	305'
SAMPLE NO. 4:	12	PPM	5'	335'
SAMPLE NO. 5:	3	PPM	5'	365'
SAMPLE NO. 6:	14	PPM .	5'	395'
SAMPLE NO. 7:	17	PPM	5'	425'
SAMPLE NO. 8:	15	PPM	5'	455'
SAMPLE NO. 9:	11	PPM	5'	485'
SAMPLE NO. 10:	13	PPM	5'	515'

COMMENTS: Contamination was 1' to 2' deep. 4' to 5' was good earth and tested ok.

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SOIL ANALYSIS REPORT

DATE: 09/06/93		FACILIT	FACILITY: SANTE FE		
CLIENT: B C SUPERVISOR: S	C & D (5. THO	G ARROY	ARROYO		
	TPH		DEPTH	LOCATION	
SAMPLE NO. 1:	22	PPM	5'	545'	
SAMPLE NO. 2:	9	PPM	5'	575'	
SAMPLE NO. 3:		PPM			
SAMPLE NO. 4:		PPM			
SAMPLE NO. 5:		PPM			
SAMPLE NO. 6:		PPM .			
SAMPLE NO. 7:		PPM			
SAMPLE NO. 8:		PPM			
SAMPLE NO. 9:		PPM			
SAMPLE NO. 10		PPM			

COMMENTS: With track hoe, dug 1 bucket wide and 5' deep. Earth tested ok.

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SOIL ANALYSIS REPORT

DATE: 09/07/93 CLIENT: B C & D OPERATING SUPERVISOR: S. THOMAS FACILITY: HANSON

SETTLING POND

	TPH		DEPTH	LOCATION
SAMPLE NO. 1:	27	PPM	20'	0'
SAMPLE NO. 2:	724	PPM	20'	30'
SAMPLE NO. 3:	51	PPM	21'	30'
SAMPLE NO. 4:	38	PPM	20'	60'
SAMPLE NO. 5:		PPM		
SAMPLE NO. 6:		PPM .		
SAMPLE NO. 7:		PPM		
SAMPLE NO. 8:		PPM		
SAMPLE NO. 9:		PPM		
SAMPLE NO. 10:		PPM		

COMMENTS: Contents of settling pond were real soupy. Pond is 25' wide and 20' deep. Layer of silt about 2' thick, then small layer of black sludge about 4" to 8" thick. Another small layer of silt. Large layer of black sludge about 4' to 5' thick. Bottom of clay tests ok.

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SOIL ANALYSIS REPORT

DATE: 09/08/93		FACILIT	FACILITY: HANSON		
CLIENT: B C & D OPERATING SUPERVISOR: S. THOMAS			NG SETTLIN	IG POND #2	
	TPH		DEPTH	LOCATION	
SAMPLE NO. 1:	57	PPM	20'	90'	
SAMPLE NO. 2:	20	PPM	15'	120'	
SAMPLE NO. 3:	24	PPM	15'	150'	
SAMPLE NO. 4:		PPM			
SAMPLE NO. 5:		PPM			
SAMPLE NO. 6:		PPM .			
SAMPLE NO. 7:		PPM			
SAMPLE NO. 8:		PPM			
SAMPLE NO. 9:		PPM			
SAMPLE NO. 10:		PPM			

COMMENTS: Dimensions of pond is 25' wide and 20' deep, then near the mouth of the pond, level of contamination raised to 5'.

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SOIL ANALYSIS REPORT

DATE: 09/13/93	5	FACILI	FACILITY: HANSON	
CLIENT: B	C & D (OPERATIN	IG	
SUPERVISOR:	S. THO	MAS	ARROY	0
	TPH		DEPTH	LOCATION
SAMPLE NO. 1:	37	PPM	10'	180'
SAMPLE NO. 2:	19	PPM	10'	210'
SAMPLE NO. 3:	24	PPM	10'	240'
SAMPLE NO. 4:	97	PPM	10'	270'
SAMPLE NO. 5:	67	PPM	10'	300'
SAMPLE NO. 6:		PPM .		
SAMPLE NO. 7:		PPM		
SAMPLE NO. 8:		PPM		
SAMPLE NO. 9:		PPM		
SAMPLE NO. 10):	PPM		

COMMENTS: Layer of silt on top about 10" to 18". Small layer of sludge about 3" to 5" thick. Another layer of sludge 3' to 5'. Layer of grey clay that is mixed with sludge to make a barrier to good earth underneath the contaminated earth. Ditch is about 15' wide.

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SOIL ANALYSIS REPORT

DATE: 09/14/9	3		FACILIT	Y: HANSON
CLIENT: B SUPERVISOR:	C & D (S. THO	OPERATI MAS	ING ARROY(D
	TPH		DEPTH	LOCATION
SAMPLE NO. 1	: 9	PPM	10'	330'
SAMPLE NO. 2	: 38	PPM	10'	360'
SAMPLE NO. 3	: 12	PPM	10'	390'
SAMPLE NO. 4	: 15	PPM	10'	420'
SAMPLE NO. 5	: 51	PPM	10'	450'
SAMPLE NO. 6	:	PPM		
SAMPLE NO. 7	:	PPM		
SAMPLE NO. 8	:	PPM		
SAMPLE NO. 9	:	PPM		
SAMPLE NO. 1	0:	PPM		

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COMMENTS: Ditch now is 12' deep and 10' across.

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SOIL ANALYSIS REPORT

FACILITY: HANSON DATE: 09/15/93 CLIENT: **BC&DOPERATING** SUPERVISOR: S. THOMAS ARROYO TPH DEPTH LOCATION 480' SAMPLE NO. 1: 14 PPM 10' SAMPLE NO. 2: 19 PPM 10' 510' SAMPLE NO. 3: 7 PPM 10' 540' 570' SAMPLE NO. 4: 29 PPM 10' SAMPLE NO. 5: 45 PPM 10' 600' PPM 10' 630' SAMPLE NO. 6: 86 PPM SAMPLE NO. 7: SAMPLE NO. 8: PPM SAMPLE NO. 9: PPM SAMPLE NO. 10: PPM

COMMENTS: Same as day before, but ditch is now a constant 10' wide.

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SOIL ANALYSIS REPORT

ARROYO

DATE: 09/17/93 CLIENT: B C & D OPERATING SUPERVISOR: S. THOMAS FACILITY: HANSON

	TPH		DEPTH	LOCATION
SAMPLE NO. 1:	44	PPM	8'	660'
SAMPLE NO. 2:	31	PPM -	8'	690'
SAMPLE NO. 3:	32	PPM	8'	720'
SAMPLE NO. 4:	89	PPM	8'	750'
SAMPLE NO. 5:	97	PPM	7'	780'
SAMPLE NO. 6:	85	PPM	. 6'	810'
SAMPLE NO. 7:	74	PPM	5'	840'
SAMPLE NO. 8:	31	PPM	5'	870'
SAMPLE NO. 9:	13	PPM	5'	1300'
SAMPLE NO. 10:	91	PPM	5'	1330'

COMMENTS: Layer of silt 2'. Layer of black sludge 2' to 4'. Then clay under that. Traces of contamination from the above layer. About 1' of that clay has to be excavated. Below that is good earth. The reason for the jump in distance between samples at 870' and 1300' is because that part of the arroyo is under water.

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SOIL ANALYSIS REPORT

ARROYO

DATE: 09/17/93 CLIENT: B C & D OPERATING SUPERVISOR: S. THOMAS FACILITY: HANSON

	TPH		DEPTH	LOCATION
SAMPLE NO. 1:	28	PPM	5'	1360'
SAMPLE NO. 2:	31	PPM	5'	1390'
SAMPLE NO. 3:	56	PPM	5'	1420'
SAMPLE NO. 4:		PPM		
SAMPLE NO. 5:		PPM		
SAMPLE NO. 6:		PPM		
SAMPLE NO. 7:		PPM		
SAMPLE NO. 8:		PPM		
SAMPLE NO. 9:		PPM		
SAMPLE NO. 10	•	PPM		

COMMENTS: Top layer of silt 2', then layer of contamination 1.5', then good earth at about 5'.

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SOIL ANALYSIS REPORT

DATE: 09/18/93			FACILI	FY: HANSON
CLIENT: B C SUPERVISOR: S.	& D THC	OPERATING MAS	ARROY	0
	ГРН		DEPTH	LOCATION
SAMPLE NO. 1:	74	PPM	5'	1450'
SAMPLE NO. 2:	26	PPM	5'	1480'
SAMPLE NO. 3:	93	PPM	5'	1510'
SAMPLE NO. 4:	37	PPM	5'	1540'
SAMPLE NO. 5:	49	PPM	5'	1570'
SAMPLE NO. 6:	22	PPM	5'	1600'
SAMPLE NO. 7:	17	PPM	5'	1630'
SAMPLE NO. 8:	51	PPM	5'	1660'
SAMPLE NO. 9:	19	PPM	5'	1690'
SAMPLE NO. 10:	41	PPM	5'	1720'

COMMENTS: 2' layer of silt. Then 1.5' to 2' layer of contamination. Good earth below that tested ok.

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SOIL ANALYSIS REPORT

DATE: 09/18/93 CLIENT: B C & D OPERATING SUPERVISOR: S. THOMAS FACILITY: HANSON

ARROYO

	ТРН		DEPTH	LOCATION
SAMPLE NO. 1:	35	PPM	5'	1750'
SAMPLE NO. 2:	38	PPM	5'	1780'
SAMPLE NO. 3:	20	PPM	5'	1810'
SAMPLE NO. 4:	48	PPM	5'	1840'
SAMPLE NO. 5:	41	PPM	5'	1870'
SAMPLE NO. 6:	12	PPM .	. 5'	1900'
SAMPLE NO. 7:	23	PPM	4'	1930'
SAMPLE NO. 8:	28	PPM	4'	1960'
SAMPLE NO. 9:	16	PPM	4'	1990'
SAMPLE NO. 10	42	PPM	4'	2020'

COMMENTS: 2' layer of silt. Then 1.5' to 2' layer of contamination. Good earth below that tested ok.

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SOIL ANALYSIS REPORT

DATE: 09/18/93			FACILIT	Y: HANSON	
CLIENT: B C SUPERVISOR: S	& D (. THO	NG ARROYO	ARROYO		
	TPH		DEPTH	LOCATION	
SAMPLE NO. 1:	40	PPM	3'	2050'	
SAMPLE NO. 2:	28	PPM	2'	2080'	
SAMPLE NO. 3:	35	PPM	2'	2110'	
SAMPLE NO. 4:	31	PPM	2'	2140'	
SAMPLE NO. 5:	29	PPM	2'	2170'	
SAMPLE NO. 6:	23	PPM	. 2'	2200'	
SAMPLE NO. 7:	28	PPM	2'	2230'	
SAMPLE NO. 8:	14	PPM	2'	2260'	
SAMPLE NO. 9:	10	PPM	2'	2300'	
SAMPLE NO. 10:	18	PPM	2'	2400'	

COMMENTS: Small layer of silt. Then a small layer of contamination about 2" to 4". Then good earth under that tested ok.

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SOIL ANALYSIS REPORT

FACILITY: HANSON DATE: 09/19/93 CLIENT: B C & D OPERATING ARROYO SUPERVISOR: S. THOMAS TPH DEPTH LOCATION SAMPLE NO. 1: 26 PPM 5 900' 5' 930' SAMPLE NO. 2: 21 PPM SAMPLE NO. 3: 32 PPM 5' 960' 5' 990' SAMPLE NO. 4: 28 PPM 5' SAMPLE NO. 5: 17 PPM 1020' SAMPLE NO. 6: PPM 5' 1050' 24 39 PPM 5' 1080' SAMPLE NO. 7: PPM 5' SAMPLE NO. 8: 27 1110' SAMPLE NO. 9: 42 PPM 5' 1140'

PPM

SAMPLE NO. 10: 53

COMMENTS: 2' layer of silt. 1.5' to 2' layer of contamination. Then grey clay under that tested ok. Some places instead of clay, it is earth which tested ok also.

1170'

5'

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SOIL ANALYSIS REPORT

DATE: 09/19/93 CLIENT: B C & D OPERATING SUPERVISOR: S. THOMAS FACILITY: HANSON/SANTA FE

ARROYO

	TPH		DEPTH	LOCATION
SAMPLE NO. 1:	58	РРМ	5	1200'
SAMPLE NO. 2:	30	PPM	5'	1230'
SAMPLE NO. 3:	34	PPM	5'	1260'
SAMPLE NO. 4:	49	PPM	5'	1290'
SAMPLE NO. 5:	San	ta Fe PPM	Santa Fe	Santa Fe
SAMPLE NO. 6:	18	PPM	4'	600'
SAMPLE NO. 7:	14	PPM	4'	630'
SAMPLE NO. 8:	9	PPM	4'	660'
SAMPLE NO. 9:	13	PPM	4'	690'
SAMPLE NO. 10:	10	PPM	4'	720'

COMMENTS: Hanson arroyo is same. Santa Fe arroyo is a bucket wide and 4' deep. Small top soil layer, then a 1' to 2' layer of contamination. Good earth under that.

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SOIL ANALYSIS REPORT

DATE: 09/20/93			FACILITY	Y: SANTA FE
CLIENT: B C SUPERVISOR: S	C & D (. THO	OPERATI MAS	ING ARROYO)
	TPH		DEPTH	LOCATION
SAMPLE NO. 1:	26	PPM	5	750'
SAMPLE NO. 2:	11	PPM	5'	78 0'
SAMPLE NO. 3:	17	PPM	5'	810'
SAMPLE NO. 4:	16	PPM	5'	840'
SAMPLE NO. 5:	20	PPM	5'	870'
SAMPLE NO. 6:	19	PPM ·	. 5'	900'
SAMPLE NO. 7:	13	PPM	5'	930'
SAMPLE NO. 8:	8	PPM	5'	960'
SAMPLE NO. 9:	10	PPM	5'	99 0'
SAMPLE NO. 10:	4	PPM	5'	1020'

COMMENTS: Arroyo had a strip of contamination that was 1' wide and 2' deep. 1' to 1.5' under surface. Good earth under that and it tested ok.

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SOIL ANALYSIS REPORT

DATE: 09/20/93 CLIENT: B C & D OPERATING SUPERVISOR: S. THOMAS FACILITY: SANTA FE

ARROYO

	TPH		DEPTH	LOCATION
SAMPLE NO. 1:	7	PPM	5	1050'
SAMPLE NO. 2:	12	PPM	5'	1080'
SAMPLE NO. 3:	11	PPM	5'	1110'
SAMPLE NO. 4:	19	PPM	5'	1140'
SAMPLE NO. 5:	10	PPM	5'	1170'
SAMPLE NO. 6:	4	PPM .	. 5'	1200'
SAMPLE NO. 7:	22	PPM	5'	1230'
SAMPLE NO. 8:	28	PPM	5'	1260'
SAMPLE NO. 9:	17	PPM	5'	1290'
SAMPLE NO. 10	: 14	PPM	5'	1320'

COMMENTS: Arroyo had a strip of contamination that was 1' wide and 2' deep. 1' to 1.5' under surface. Good earth under that and it tested ok.

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SOIL ANALYSIS REPORT

DATE: 09/20/93			FACILIT	Y: SANTA FE
CLIENT: B C	& D (OPERATI	NG	
SUPERVISOR: S	. THO	MAS	ARROYO)
	TPH		DEPTH	LOCATION
SAMPLE NO. 1:	16	PPM	5	1350'
SAMPLE NO. 2:	13	PPM	5'	1380'
SAMPLE NO. 3:	17	PPM	5'	1410'
SAMPLE NO. 4:	11	PPM	5'	1440'
SAMPLE NO. 5:	9	PPM	5'	1470'
SAMPLE NO. 6:	17	PPM	5'	1500'
SAMPLE NO. 7:	10	PPM	5'	1530'
SAMPLE NO. 8:	3	PPM	5'	1560'
SAMPLE NO. 9:	8	PPM	5'	1590'
SAMPLE NO. 10:	11	PPM	5'	1620'

COMMENTS: Arroyo had a strip of contamination that was 1' wide and 2' deep. 1' to 1.5' under surface. Good earth under that and it tested ok.

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SOIL ANALYSIS REPORT

DATE: 09/20/93		FACILITY	FACILITY: SANTA FE		
CLIENT: B C SUPERVISOR: S	2 & D (. THO	ING ARROYO	ARROYO		
	ТРН		DEPTH	LOCATION	
SAMPLE NO. 1:	19	PPM	5'	1650'	
SAMPLE NO. 2:	12	PPM	5'	1680'	
SAMPLE NO. 3:	16	PPM	5'	1710'	
SAMPLE NO. 4:	10	PPM	4'	1740'	
SAMPLE NO. 5:	17	PPM	4'	1770'	
SAMPLE NO. 6:	18	PPM	. 4'	1800'	
SAMPLE NO. 7:	31	PPM	2.5'	1830'	
SAMPLE NO. 8:	27	PPM	2.5'	1860'	
SAMPLE NO. 9:	46	PPM	2.5'	1890'	
SAMPLE NO. 10:	23	PPM	2.5'	1920'	

COMMENTS: The strip of contamination is only a few inches thick. Good earth under it.

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SOIL ANALYSIS REPORT

DATE: 09/20/93			FACILITY: SANTA	FACILITY: SANTA FE/HANSON		
CLIENT: B	C & D C	PERATI	NG			
SUPERVISOR:	S. THON	MAS	ARROYO			
	ТРН		DEPTH LOC	ATION		
SAMPLE NO. 1:	32	PPM	2.5'	1950'		
SAMPLE NO. 2:	27	PPM	2.5'	1980'		
SAMPLE NO. 3:	22	PPM	2.5'	2010'		
SAMPLE NO. 4:	29	PPM	2.5'	2040'		
SAMPLE NO. 5:	58	PPM	4'	2070'		
SAMPLE NO. 6:	64	PPM	· 6'	2100'		
SAMPLE NO. 7:	52	PPM	10'	2130'		
SAMPLE NO. 8:		PPM	HANSON PIT DISCHARGE			
SAMPLE NO. 9:	33	PPM	7'	30'		
SAMPLE NO. 10	: 21	PPM	7'	60'		

COMMENTS: As the tributary neared the main arroyo it got deeper to same depth as the main arroyo. The contamination was 3.5' wide and 4' thick. The earth tested ok under that. At the Hanson pit discharge, the contamination was 2.5' wide and 3' to 4' thick. At 7' it cleaned up and tested ok.

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SOIL ANALYSIS REPORT

DATE: 09/20/93			FACILIT	Y: HANSON	
SUPERVISOR: S	. THO	MAS	PIT DISCHARGE		
	TPH		DEPTH	LOCATION	
SAMPLE NO. 1:	18	PPM	4'	90'	
SAMPLE NO. 2:	26	PPM	2.5'	120'	
SAMPLE NO. 3:	35	PPM	2.5'	150'	
SAMPLE NO. 4:	31	PPM	2.5'	180'	
SAMPLE NO. 5:	47	PPM	4'	210'	
SAMPLE NO. 6:	40	PPM .	8'	240'	

PPM

PPM

PPM

PPM

SAMPLE NO. 7: 52

SAMPLE NO. 8:

SAMPLE NO. 9:

SAMPLE NO. 10:

COMMENTS: The contamination level raised to only 2" to 3" thick. As the small arroyo neared the main arroyo it deepened to the same depth. The strip of contamination became 2' wide and 3' thick. At 10' it cleaned up and tested ok.

10'

270'

	Con	fined \$	Space	En	try	Perm	it	Effective Date: Commencing: Expiring: Time Removed	(/ / 		
	Lease (OCS-):				Facility		_ Tank Battery/M	Tank Battery/Well:		
-	Worksite	·		_ Block: _		_ Piatform:		_ Rig:			
Ē	Division:					_ Area:		_ SubArea:	<u></u>		
Per	Hot Work Per	mit Required:	Yes No		Hot Work Perm	it number:					
	Hazardous mi Work Descript	nterial (last product ion:	contained):					_ MSDS(s) availa _ MSDS(s) Locat	ble: DYes DNo on:		
	Conditions of Area/Equipment Prior to Confined Space Entry Write initials or N/A (not applicable) in column										
2		······			builtial: Yes No						
	Out of service	• • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • •	• • • • • • •	x	Ventilation equi	pment operating .		<u>N</u> A		
	Liouid residue	e emptied	•••••	•••••	x	Intrinsically-safe	explosion-proof I acked for havards	ighting	····· N A		
	Ignition source	present	•••••	••••		Warning signs s	echaro for mazaros metori		····· X		
**	Lines blinded,	removed plugged	• • • • • • • • • • • • • • •	•••••	X	Notified affected					
IIS	Lockout/tagou	procedures follow	ed		·^	Emergency corr	munication establ	ished	· · · · · · · · · · · · · · · · · · ·		
Š	Explosion-proc	equipment used			x	Standby person	present and train	••••••••••••••••••••••••••••••••••••••			
Ъе	Nonexplosion-	proof equipment lo	cation checked	• • • • • • • •	x	Standby person	's name:	S.T.	[]		
С О	Fire extinguish	er and first-aid kit (present		.x	Rescue plan rev	viewed		X		
	Personal prote	ction equipment lis	ted below ready .	••••••	.x	Water washed/d	lisplaced with wat	ər	N A		
	Atmorphosic m	Diection required	•••••	•••••	X	Vessel steamed	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · ·	N A		
	Almospheric monitoring (continuous preferred)					Other NIA					
2	L.E.L. (0.0	% desired < 10 0*	% recuired)	• • • • • • •	<u>x</u>	Entrants trained and briefed					
	H,S («PE	JTLV)			X V	Entrant's Names S.T.					
	NORM				.A						
	Other:										
	Personal Protective Equipment (Mark Required In										
Ц	Ears/Eyes	Extremities	Body Suits	Respirator		Rescue	Fire Protection		Other: write in		
Q .	D Googles D Face Shield D Ear plugs D Ear munts 20 Safety gasales	D Gioves D Boote D Hard hats D Avoid stun contect	El Coveralia Di Fire recardant Di FVC suit Di Fully- encaps ulated	D SCBA D Airline (with egress bottle) D Particulate resp. (HEPA)		D Salety beh D Lifetne D Harness D Alarm Hom D Frest aid Mt D Trood unit	DE Extreguisher DEre hose DBlanket DShield	D Wet down area D Cover drain D Fire welch			
<	Time	Oxygen (%)	L.E.L. (%)	H ₁ S (ppm)		Toxic/Other write in:		instrument Number(s)	Person Testing		
5	9:00	20.1	0	0		N/A	N/A	LR81532	ST		
5	10:00	20.1	0	0							
es S	12:00	20.1	0	0							
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dditiona	I Precautions:	<u> </u>									
2	The location whe	re this work is to t	of done has been	examined,		Job completed .			TYes ZNo		
	necessary preca	usons taken, and p	ermission is grant	ed for this	work.	Notified supervisor of completion					
natu	Cubing parases a set					Notified superviso	r of completion .				

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Distribution: Original (blue) - Post at work site then forward to department maintaining the Work Permit file, Copy (white) - Keep with pad.

	Con	fined	Space	En	tr	У	Perm	it	Commencing. Expiring: Time Remove	d	AN	
	Lease (OCS	-)					Facility		Tank Battery/	Veli		
Permit	Worksite	/	······	Block			Platform		 Rig:			
							Area:		SubArea:	SubArne		
	Hat Wash Damit Damit Divert						Hot Work Perm	it number				
	Harardour m	min reguined.					MSDS(s) avail					
	Work Descer	timeriai (ast produc	. containeo)				MSDS(s) Local	ion:				
	The besch											
	Condition	nitials or N/A (not)	applicable)	in colu								
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	Con	fined s	Space	En	tr	y	Perm	it	Effective Date. Commencing: Expiring: Time Removed	(/ 	/ AN.F AN.F	
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	Liquid residue	present	· · · · · · · · · · · · · · ·	••••		<u>x</u>	Nearby area d	hecked for hazards	•••••••	· · · · · · · · }	<u>x</u>	
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00	Explosion-prod	vi equipment used		••••	X		Standby perso	n present and train	θΟ			
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	O, (>19.5% but <23.5%)						Other:		•••••	f	NA	
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Copy (white) - Keep with pad.

	Con	fined \$	Space	En	tr	у	Perm	it	Effective Date. Commencing: Expiring: Time Removed	(/	/ AU AU	
							Facility:		_ Tank Battery/W	Tank Battery/Well:		
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	Liquid residue	present	• • • • • • • • • • • • • • •	••••		<u>х</u>	Nearby area d	hecked for hazards	•••••		<u>x</u>	
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t	Fire exonguish	er and first-aid kit i			X V		Rescue plan reviewed					
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	Respiratory pro	stection required .				x	Vessel steamed					
	Atmospheric m	onitoring (continue	us preterred)		x		Initial cleaning done from outside					
	O, (>19.5% but <23.5%)						Other: NA					
	L.E.L (0.0% desired, < 10.0% required)						Entrants trained and briefed					
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2	The location whe	ne this work is to b	of done has been	examined,		T	lob completed .			C) Yes	EN	
	Care and the second sec	upons taken, and p	ermission is grant	nd for this	work.		Notified supervis	or of completion .		C) Yes		
5	ton	2.460	•				Blinds and locks	removed				

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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

BRUCE KING GOVERNOR

ANITA LOCKWOOD CABINET SECRETARY

July 23, 1993

CERTIFIED MAIL RETURN RECEIPT NO. P-667-242-359

Mr. Donnie Hill 3C & D Operating, Inc. P.O. Box 5926 Hobbs, New Mexico 88241

RE: SOIL REMEDIATION BC & D OPERATING, INC. HOSPAH FIELD MCKINLEY COUNTY, NEW MEXICO

Dear Mr. Hill:

The New Mexico Oil Conservation Division (OCD) has reviewed the July 16, 1993 BC & D Operating, Inc. request to excavate and stockpile contaminated soil from the arroyo and two settling ponds adjacent to BC & D Operating's tank batteries in the Hospah Field.

The above referenced request is hereby approved with the following conditions:

- 1. BC & D Operating will document the final contaminant levels upon completion of excavation as per OCD's February 1993 "UNLINED SURFACE IMPOUNDMENT CLOSURE GUIDELINES" which are enclosed for you reference.
- 2. A completion report containing the results of all final contaminant level sampling, locations of sampling points, volumes excavated, maps showing the locations of the areas excavated and the stockpile areas and any other pertinent information related to this project will be submitted to OCD by October 1, 1993.
- 3. BC & D Operating will notify OCD at least 72 hours in advance of all activities such that OCD may have the opportunity to witness the work elements and/or spilt samples.

Mr. Donnie Hill July 23, 1993 Page 2

Please be advised that OCD approval does not limit BC & D Operating to the work plan proposed should BC & D Operating's actions fail to adequately remediate contaminants related to their operations. In addition, OCD approval does not relieve BC & D Operating of responsibility for compliance with any other federal, state or local laws and/or regulations.

If you have any questions, please contact me at (505) 827-5885.

Sincerely,

William C. Olson Hydrogeologist Environmental Bureau

Enclosure

xc: OCD Aztec Office



BC & D OPERATING, INC.

'93 JU 23 AM 10 33

Fax recieved 7/16/93

State of New Mexico Oil Conservation Division P.O. Box 2088 Santa Fe, NM 87504-2088

Attn: William Olson

Dear Mr. Olson:

B C & D Operating, Inc. has purchased the Hospah Field, McKinley County, New Mexico from American Exploration Company. We have a concern for the weather condition that late July and August may yield. Generally this time of the year the weather tends to be wet. The arroyo and the two settling ponds in Section 1 and Section 6 have dried considerably which will allow the oil stained soil to be removed much easier. If it should rain it could cause a delay in the cleanup operation.

B C & D is requesting permission to remove the soil from the two settling ponds and stock pile it in a secured area near the arroyo. The stock piles will be protected from the rain with a burma around each to prevent any storm water run off from carrying any of the soil back to the arroyo. Following the permitting of the centralized land farm facilities, the material will be loaded on truck and carried to the site for remediation.

Please advise of your decision at (505) 392-2041 or fax to (505) 392-2793.

Thank you,

anie 1

Donnie Hill President

DH/sn

cc: Aztec OCD - Denny Foust Santa Fe OCD - Roger Anderson Santa Fe OCD - Kathy Brown American Exploration - Lloyd Hetrick

P.O. BOX 5926

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AMERICAN EXPLORATION COMPANY

FACSIMILE TRANSMITTAL

DATE:	5-26-93	
TO:	Denny Foust	DECEIVE
ATTN:		MAY2 6 1993
FAX #:	505/334-6170	DIST. 9
FROM:	BOD Oxford	
PAGES TO	FOLLOW EXCLUDING COVER	PAGE 4
COMMENT	S:	
IF TH	ERE ARE ANY PROBLEMS WITH	I THE TRANSMITTAL OF THIS FAX,
	PLEASE CALL (713) 7.	56-6395
	FAX # (713) 756-6006

1331 Lamer Street, Suite 900, Houston, Texas 77010-3088, Telephone: (713) 756-6000 985 Third Avenue, Suite 1200, New York, New York 10022-4802, Telephone: (212) 644-6900

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American Exploration Company

May 26, 1993

Mr. David Coss New Mexico Environment Department Water and Waste Management Division Surface Water Quality Bureau 1190 St. Francis Bureau P. O. Box 26110 Santa Fe, New Mexico 87502

RE: Hospah Oil Field McKinley County, New Mexico

Dear Mr. Coss:

Enclosed is our completed application for a New Mexico water quality certification. We understand the certification is required to qualify for a Nationwide Permit under Section 404 of the Clean Water Act. Should you require any further information to process our application, please call me at (713)756-6386. Thank you.

Yours truly,

Roderick Oxford Vice President - Legal

RO/rg 1-699ro

Enclosure

Denny G. Foust, N.M. O.C.D. cc: Lloyd Hetrick, American Exploration Co.

EIVER MAY2 6 1993 OIL CON. DIV

DIST. 3
APPLICATION FOR NEW MEXICO WATER QUALTY APPROVAL TO CONDUCT WORK UNDER A NATIONWIDE SECTION 404 PERMIT

New Mexico Environment Department Water and Waste Management Division Surface Water Quality Bureau 1190 St. Francis Drive, P.O. Box 26110, Santa Fe, New Mexico 87502

State of New Mexico water quality certification of nationwide permits requires that plans for any work in a perennial water course or work that disturbs more than 1/2 acre of wetlands must be approved by the Environment Department prior to conducting the work.

1. Applicant:

Name	American Exploration Company			
Address				
	Houston, Texas 77010-3088			
Contact Person:	Roderick Oxford / Lloyd Hetrick	i		
Phone Number	713/756-6386 / 756-6499			

2. Describe the location of the proposed dredging or filling activity (include an area map) and river or waterbody affected. Be as specific as possible:

Excavated material will be landfarmed at a location designated as "Landing

Strip" on the attached map and located approximately 1/2 mile east of Hospah,

New Mexico

3. Type of work: ____Bank Stabilization ____Road Crossing

Maintenance

X_Above Headwaters

Other (describe) excavation and landfarming

4. Describe the work to be done and its purpose:

removal of soil and oily materials immediately downstream from water discharge

points and skimming ponds identified on the attached map

MAY2 R OIL CO Dist

SENT OF AMERICAN EXPERIMENT OF 20-00 - 2747PM

5. Describe any adverse water quality impacts that may result from the proposed activity such as increased turbidity or erosion. How long will such impacts occur?

None identified

6. Describe methods to be used to prevent water quality impacts which could interfere with attainment of State designated fishery, recreation, irrigation, water supply or other uses. If those actions include constructing sediment ponds, retention dams, or other structures, please attach plans, schedules and other information as appropriate:

Landfarming activities will be conducted in accordance with New Mexico Oil

Conservation Division regulations and a levee system will be constructed to

prevent runoff.

7. Describe the physical and chemical characteristics of the dredged or fill materials (such as rock size, mineral content or man-made materials). Be as specific as possible:

soil, oily soil and oil

8. Project Schedule: Start date 6/15/93 End date 8/15/93

9. I certify that the information contained in this application, to the best of my knowledge, is true, complete and accurate.

Applicant Kommen

Date 5/26/93

Note: There is no authorization to work under a nationwide permit in New Mexico until this application is approved by the Environment Department.

> MAY2 6 1993 DIL CON. DIV. DIST. 3

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STATE OF NEW MEXICO

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ENERGY, MINERALS and NATURAL RESOURCES DIVISION OIL CONSERVATION DIVISION AZTEC DISTRICT OFFICE

BRUCE KING GOVERNOR ANITA LOCKWOOD CABRIELSECRETARY 1000 RIG BRAZOS ROAD AZTEZ, NEW MEXICO 97410 (Stil) 334-6179

o 4

FAX TRANSMITTAL SHEET AND INVOICE

DATE: <u>6/22</u> TO: Kathy Brown - Bill Olson 0 C San е, FROM: Denny Foust OCD ztec FAX: 505-334-6170 COMMENTS: Do you have any input on Thi NUMBER OF PAGES INCLUDING COVER: CHARGES: ~

PLEASE REMIT TO LETTERHEAD ADDRESS WHEN THERE IS A CHARGE



1. 7.

DRAFT

6-16-93 Alayd

AMERICAN EXPLORATION COMPANY

EXCAVATION PLAN FOR THE HOSPAH FIELD

MAY, 1993

I. Prerequisites

- A. All required USCOE and NMOCD permits to excavate and remediate oily soils.
- B. Landing strip site improvements to accommodate 10,000+ cubic yards of material for remediation and properly manage stormwater runoff.
- C. Field testing of an Organic Vapor Analyzer (OVA) to use field benzene vapor readings to predict hydrocarbon content of the soil.
- D. Approval of this Excavation Plan by the NMOCD.

II. Excavation Activities

- A. Mobilize backhoe, dump truck(s) and American supervisor with OVA to the HSU/SFRR"A" discharge point. Hold prejob safety meeting and individual responsibilities.
- B. Remove oily soil along the arroyo until the 100 mg/kg limit is reached.
- C. Place excavated material into dump truck(s) for transport to the landing strip/treatment site.
- D. Spread out the material at the treatment site.
- E. Continue removal of oily soil along the arroyo until the HSU/SFRR"A" discharge area is below 100 mg/kg limit. Confirm this result with NMOCD Field Inspector and BC&D Oil & Gas.
- F. Repeat above steps A. through E. for the Hanson discharge point, SFRR discharge point, skimming pit #1 and skimming pit #2.

JUN1 6 1993

OIL CON. MAN

Attachment - Field Map

MI-018

-63 Mg - 1	, AM 9 52
	AMERICAN EXPLORATION COMPANY FACSIMILE TRANSMITTAL MAY 0 5 1993 OIL CON. D
DATE:	5-5-93 TOIST. 3
TO:	DENNY FOUST
ATIN:	
FAX #:	505/334-6170
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FROM:	KOD OXFORD
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FROM: PAGES TO F COMMENTS IF THE	RE ARE ANY PROBLEMS WITH THE TRANSMITTAL OF THIS FAX,

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1331 Lamar Street, Suite 900, Houston, Texas 77010-3098, Telephone: (713) 755-6000 885 Third Avenue, Suite 1200, New York, New York 10022-4802, Telephone: (212) 644-6900



Discharge Point:	LAB ANALYSIS	INSTRUCTIONS	v 7	
Sampling Date:	4/2/93	By: there		······································

Samples Obtained

I.

(-0-0")	0 - 6"*	0 12"	0 - 24"	0 - 60"
10 0"	10 - 6"+	10 - 12"	10	10 — 60°
20 - 0"	20 - 6"	20 - 12"	20 74"	20 - 60
30 - 0"	30 - 6"	30 - 12	30 - 24"	30 — đữ
40 0"	40 - 61	10 - 12"	40 - 24"	40 604
50 - O"	50 - 6°	50 12"	50 - 24"	50 60"
60 0 "	60 – 6 ⁴	60 - 12"	60 - 24"	60 - 60*
70 – O''	70 – 6"	70 - 12"	70 - 24"	70 - 60"
80 0 "	80 6 1	80 - 12"	80 - 24	B0 60*
90 - 0"	90 6"	90 - 12"	90 — 24"	90 60"
100 - 0"	100 - 6"	100 - 12"	100 - 24"	100 - 60"

II. Field Sketch of the Sampling

13 30 III. Analysis Instructions 30' Any sample crossed - out was not obtained due to field constraints, therefore no analysis. 1. 2. All shaded samples should be held at 4 degrees C until further instructions are given. Any sample with an * should be run using ASTM 3328 and SW 846, \$01 3. All other samples should be run using ASTM 3328 only. 4. MI-004 6" 12" For TPH RUN

AD ANALISIS INSINULIUNU

Discharge Point: Hanso

Sampling Date: 4/2/93

tongs By:

Samples Obtained

1.

0 0"	0 6"*	0 - 12"	0 - 24"	0 - 60"
10 - 0"	10 - 6"*	10 - 12"	10 - 24"	10 — 60°
20 - 0"	20 - 6"	20 - 12"	20 - 24"	20 60"
30 - 0"	30 - 6"	30 - 12"	30 - 24"	30 - 50"
40 - 0"	40 - 6*	40 12"	40 - 24"	40 - 60°
50 - 0"	50 - 6"	50 - 12"	50 - 24"	50 - 60"
60 - 0"	60 - 6"	60 - 12"	60 - 24"	6U - 6U'
70 - 0"	70 - 6"	70 - 12'	70 - 24"	70 60"
80 — Q ^{ir}	80 - 6"	80 - 12"	80 - 24"	80 60"
90 - 0"	9 0 0	ער 12	yu - 24	90 00.
100 - 0"	100 - 6"	100 - 12"	100 - 24"	100 60"

II. Field Sketch of the Sampling

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-Slow

30

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III. Analysis Instructions

- 1. Any sample crossed-out was not obtained due to field constraints, therefore no analysis.
- 2. All shaded samples should be held at 4 degrees C until further instructions are given.

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- 3. Any sample with an * should be run using ASTM 3328 and SW 846, 8015.
- 4. All other samples should be run using ASTM 3328 only.

MI-004

Run de 24

AD ANALISIS INSIKULIUNS

1;# 1/ 3

Discharge Point: _5/

Sampling Date: 4

By:

I. Samples Obtained

0 - 0"	0 - 6"*	0 - 12"	0 - 24"	0 - 60*
10 0"	10 - 6"*	10 - 12"	10 - 24"	10 - 60"
20 0"	20 - 6"	20 - 12"	20 - 24"	20 - 60"
30 - 0"	30 - 6"	30 - 12"	30 - 24"	30 - 60*
40 - 0"	40 - 6"	40 - 12"	40 - 24"	40 60"
50 - 0"	50 - 6"	50 - 12"	50 - 24"	50 60"
60 - 0 "	60 - 6*	60 - 12"	60 - 24"	60 — 60".
70 – 0"	70 - 6"	70 - 12"	70 - 24"	70 - 60"
80 - 0"	80 - 6"	80 - 12"	80 - 24"	80 - 60"
90 - 0"	90 - 6"	90 - 12"	90 - 24"	90 - 60"
100 - 0"	· 100 – 6"	100 - 12"	100 - 24"	100 - 60"

II. Field Sketch of the Sampling



1. Any sample crossed—out was not obtained due to field constraints, therefore no analysis.

- 2. All shaded samples should be held at 4 degrees C until further instructions are given.
- 3. Any sample with an * should be run using ASTM 3328 and SW 846, 8015.
- 4. All other samples should be run using ASTM 3328 only.

MI - 004

Skimming Pit: #1 (Dom Stream from Sampling Date: <u>4/3/93</u> By:

I. Samples Obtained

A - 0"	A – 6"*	A - 12" A - 24" A - 60"
B 0'	B ~ 6"*	B - 12" B - 24" B - 60"
C - 0"	С - б"	C - 12" C - 24" C - 60"
D = 0"	D - 6"	D - 12", $D - 24"$ $D - 60"$
E - 0"	E – 6"	E - 12" E - 24" E - 60"
F - 0*	F – 6"	F - 12" F - 24" F - 60"

U. Field Sketch of the Skimming Pit and Location A through F for Sampling Points:



- 1. Any sample crossed—out was not obtained due to field constraints, therefore no analysis.
- 2. All shaded samples should be held at 4 degrees C until further instructions are given.
- 3. Any sample with an * should be run using ASTM 3328 and SW 846, 8015.
- 4. All other samples should be run using ASTM 3328 only.

005

1;# 3/ 3 1 Inal. Skimming Pit: _____ V/ & Hanso tion Pil WA Strpam Sampling Date: _ 3 By:

Samples Obtained

I.

A 0"	A – 6"*	A - 12" A - 24" A - 60"
B 0"	B – 6"*	B - 12" B - 24" B - 60"
C - 0"	C - 6"	C - 12" C - 24" C - 60"
D - 0"	D – 6"	D - 12" D - 24" D - 60" "
E 0"	E - 6"	B-12" E-24" E-60"
F - 0"	F - 6"	F-12" F-24" F-60"

Field Sketch of the Skimming Pit and Location A through F for Sampling Points: II.



- Any sample crossed—out was not obtained due to field constraints, therefore no analysis.
- All shaded samples should be held at 4 degrees C until further instructions are given. 2.
- Any sample with an * should be run using ASTM 3328 and SW 846, 8015. 3.
- All other samples should be run using ASTM 3328 only. 4.

MI-005



American Exploration Company

April 29, 1993

FEDERAL EXPRESS

Mr. Denny A. Foust Environmental Geologist Energy, Minerals and Natural Resources Division Oil Conservation Division 1000 Rio Brazos Road Aztec, New Mexico 87410

RE: Hospah Oil Field McKinley County, New Mexico



Dear Mr. Foust:

We are following up on yesterday's correspondence by delivering copies of a complete set of lab analyses of soil samples taken at the Hospah Field during the first week of April. To determine the location and depth of each analysis, refer to the description following the words "SAMPLE ID". For example "SFRR 10-6" refers to a sample taken at a point <u>10 feet</u> downstream from the discharge point at Sante Fe Railroad lease at a depth of 6 inches. If you need further explanation, do not hesitate to call me at (713) 756-6386.

Very truly yours,

AMERICAN EXPLORATION COMPANY

Roderick Oxford U Vice President - Legal

RO:nb

cc: Bob McBride Lloyd Hetrick

RO:0001

oco/BC+D Oil Meeting on Hospah 4/21/93 10:30 cm porticipants - Bill Olson - OCO Envir. Bureau Rosa Anderson - " Kathy Brown - " Donny Hill - BC+D O.I + Gas Eddie Slavens - Envir. Spill Control, Inc. O.H. - OK + D Oil & Gas negotiction purchase of AEC Hospack unt to know jurisclictum at field RCA OCO has hathering over all Ot 6 apartins except the visited tribal benderives based on Cotton Oil tax case ratin by Suprem Count. Includes allieted lamis # Citation Dil 4 Gas operates adjuant field in ser 12 Since field has contralized theility concerniction is unit. Sank Te office. Individual Apreld conediction, except for suffice water, G.W. concerniction, and Pistrict office D.H. Would like - long ten sod renediation on old air strip - short temm " " " adjucant to arroyo AcA Short term for individual remediation on the or or time bisis but cannot be hand to bailedill arroyo unless torisos toxic's levels are zero

* Landout at AEC results scoults show total Lean, chrome above TC LEA Need to run TCCP Land Chrome to demonstra below TC lovels. If above TC need statement that if in the result we F4P exampt marte in order to present to FO Haz Waste Key issues - permiting of contralited facility construction of contraninated soils remediction (losue of former unlived pits

▲4-21-93 ;10:49AM ;AMERICAN EXPLO

€10N- 5058275741:# 2/ 7 0CD/ OC4 Dil 1/21/83 Meeting handont

SENT BY : HOUSTON

SITE:

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Certificate of Analysis No. 9304240-01

American Exploration Co.	
1331 Lanar, Ste 900	
Houston, TX 77010	
ATTN: Mr. Lloyd Hetrick	

PROJECT: Hospah Arroyo Analysis

SAMPLE DE SPRR - 0-0" P 1/2

DATE: 04/21/93

PROJECT NO:	
MATRIX:	SOIL
DATE SAMPLED:	04/02/93
DATE RECEIVED:	04/07/93

	ANALYTICAL	DBA		
Parameter		RESULTS	Detection Linto	UNITS
Petroleum Hydrocarbons-Die METHOD MOD. CA. DHS Analyzed by: KA Data: 04/14/93 12:	sel (Soil) 21:00	5900	200	ng/ Kg
Silver, Total METHOD 6010 *** Analyzed by: DQ Date: 04/14/93		ND	1	mg/Kg
Arsenic, Total METHOD 7060 *** Analyzed by: WFL Date: 04/15/93		סא	0.2	ng/Kg
Barium, Total MRTHOD 6010 *** Analyzed by: DQ Data: 04/14/93		54.9	Q.5	mg/Kg
Cadmium, Total METHOD 6010 *** Analyzed by: DQ Date: 04/14/93		ND	2	mg/ Kg
Chromium, Total METHOD 6010 *** Analyzed by: DQ Date: 04/14/93		5	. 1	ng/Rg

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA **Ref: Standard Methods for Examination of Water & Wastewater, 17th ed. ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed. QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance. 4-21-93 ;10:49AM ;AMERICAN EXPLOTION→



SENT BY HOUSTON

Certificate of Analysis No. 9304240-01

American Exploration Co. 1331 Lamar, Ste 900 Houston, TX 77010 ATTN: Mr. Lloyd Hetrick

DATE: 04/21/93

Project:	Hospah	A ILOÃO	Analysis
BITE:			
BANDLED	BY: <u>Ame</u> i	rican K	ploration
	D: (SFRR	- 0-0"	- p2/2

PROJECT NO: MATRIX: SOIL DATE SAMPLED: 04/02/93 DATE RECEIVED: 04/07/93

	ANALYTICAL	DATA		
Parameter		results	defection Limit	UNITS
Mercury, Total METHOD 7471 *** Analyzed by: PB Date: 04/12/93		ND	0.1	mg/Kg
Moisture, E.P.A. METHOD CLP SOW Analyzed by: DSE Date: 04/12/93		7	1	vt. *
Acid Digestion-Solid, ICP METEOD 3050 Analysed by: AM Date: 04/13/93		04/13/93		
Lead, Total METHOD 6010 *** Analyzed by: DQ Date: 04/14/93		ND	10	ng/Kg
Selenium, Total MRTHOD 7740 *** Analyzed by: WFL Date: 04/16/93		ND	1	mg/Kg

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA **Ref: Standard Methods for Examination of Water & Wastewater, 17th ed. ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance. 4-21-93 ;10:50AM ;AMERICAN EXPLO

SENT BY HOUSTON

34



Certificate of Analysis No. 9304240-14

American Exploration Co. 1331 Lamar, Ste 900 Houston, TX 77010 ATTN: Mr. Lloyd Hetrick

DATE: 04/21/93

PROJECT: Hospah Arroyo Analysis SITS: SAMPLED BY: American Exploration SAMPLE ID: HSU - 0-0" V 1/2	PROJECT MAT DATE SAMP DATE RECEI	NO: RIX: SOIL LED: 04/02/93 VED: 04/07/93	
iwalyrical	DATA	······································	
PARAMETER	RESULTS	Detection Limit	Units
Petroleum Hydrocarbons-Diesel (Soil) METHOD MOD. CA. DHS Analyzed by: KA Date: 04/14/93 12:21:00	1900	200	ng/Kg
Silver, Total METHOD 6010 *** Analyzed by: DQ Date: 04/14/93	КD	1	mg/Kg
Arsenic, Total MFTHOD 7050 *** Analyzed by: WFL Date: 04/15/93	ND	0.2	mg/Kg
Barium, Total METHOD 6010 *** Analyzed by: DQ Date: 04/14/93	86.8	0.6	mg∕Kg
Cadmium, Total METHOD 6010 *** Analyzed by: DQ Date: 04/14/93	ND	2	mg/Kg
Chromium, Total METHOD 6010 *** Analyzed by: DQ Date: 04/14/93	7	1	mg/Kg

ND - Not detected.

Notes: *Ref: Mathods for Chemical Analysis of Water and Wastes, 1983, EPA **Ref: Standard Nethods for Examination of Water & Wastewater, 17th ed. ***Ref: Test Mathods for Evaluating Solid Wasta, EPA SW846, 3rd Ed. QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

5058275741;# 4/ 7

▲ 4-21-93 :10:51AM :AMERICAN EXPLORETION→



SENT BY HOUSTON

Certificate of Analysis No. 9304240-14

American Exploration Co. 1331 Lamar, Ste 900 Houston, TX 77010 ATTN: Mr. Lloyd Hetrick

DATE: 04/21/93

PROJECT:	Hospah	Arroyo	Analysis
SAMPLED	BY:_Ame:	cican E	mloration
Sample I	D: HSU -	- 0-0*	p2/2

PROJECT NO: MATRIX: SOIL DATE SAMPLED: 04/02/93 DATE RECEIVED: 04/07/93

	ANALYTICAL DATA			
Paranater	1	redr ts	DETECTION LINIT	UNITS
Mercury, Total METHOD 7471 *** Analyzed by: PB Date: 04/12/93		ND	0.2	mg/Kg
Moisture, B.P.A. METHOD CLP SOW Analyzed by: DSE Date: 04/12/93		10	1	? vt. %
Acid Digestion-Solid, ICP METHOD 2050 Analyzed by: AM Date: 04/13/93	04	4/13/93		
Lead, Total METHOD 6010 *** Analyzed by: DQ Date: 04/14/93		10	10	mg/Kq
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 04/16/93		ЯÐ	1	ng/Kg

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA **Ref: Standard Methods for Examination of Water & Wastewater, 17th ed. ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance. 4-21-93 ÷10:51AM ÷AMERICAN EXPLO

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5058275741:# 6/ 7



Certificate of Analysis No. 9304240-27

American Exploration Co. 1331 Lamar, Ste 900 Houston, TX 77010 ATTN: Mr. Lloyd Hetrick

DATE: 04/21/93

Project; Site:	Hospah	Arroyo	Analysi	\$
SAMPLED	BY: Amer	ican E	mlorati	on
	HANSO	N - 0 - 0	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	12

PROJECT NO: NATELI: SOLL DATE SAMPLED: 04/02/93 DATE RECEIVED: 04/07/93

	LITICAL	DATA		
PARAMBTER		RESULTS	Detection Linit	UNITS
Petroleum Hydrocarbons-Diesel METHOD MOD. CA. DHS Analyzed by: KA Date: 04/14/93 12:21:0	(Scil)	2000	200	mg/Kg
Silver, Total METHOD 6010 *** Analyzed by: DQ Date: 04/14/93		1	l	mg/Kg
Arsenic, Total METHOD 7060 *** Analyzed by: WFL Date: 04/15/93		1.7	0.3	mg/Kg
Barium, Total METHOD 6010 *** Analyzed by: DQ Date: 04/14/93		145	0.6	mg/Kg
Cadmium, Total METHOD 6010 *** Analyzed by: DQ Date: 04/14/93		סא	3	ng/K g
Chromium, Total METHOD 6010 *** Analyzed by: DQ Date: 04/14/93		10	1	mg/Kg

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA **Ref: Standard Nethods for Examination of Water & Wastewater, 17th ed. ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed. QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for guality assurance. 4-21-93 ;10:52AM ;AMERICAN EXPLOBATION→



SENT BY HOUSTON

Certificate of Analysis No. 9304240-27

American Exploration Co. 1331 Lamar, Sta 900 Houston, TX 77010 ATTN: Mr. Lloyd Hetrick

DATE: 04/21/93

PROJECT: Hospah Arroyo Analysis SITE: SAMPLED BY: American Exploration SAMPLE ID: HANSON - 0-0" $\rho^2/2$ PROJECT NO: MATRIX: SOIL DATE SAMPLED: 04/02/93 DATE RECEIVED: 04/07/93

	ANALYTICAL	DATA		
Parameter		Results	dreetion <u>ltmit</u>	VNITS
Mercury, Total METHOD 7471 *** Analyzed by: PB Date: 04/12/93		Da	0.2	mg/Kg
Moisture, E.P.A. METHOD CLP SOW Analyzed by: DSE Date: 04/12/93		22	1	wt. *
Acid Digestion-Solid, ICF METROD 3050 Analyzed by: AM Date: 04/13/93		04/13/93		
Lead, Total METHOD 6010 *** Analyzed by: DQ Date: 04/14/93		10	10	mg/Rg
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 04/16/93		D	1	ng/Kg

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA **Ref: Standard Methods for Examination of Water & Wastewater, 17th ed. ***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Dear Ms. Hoskie:

Thank you for bringing to our attention that resdents of the Hospah area have concerns about oil and gas operations. It has always been our policy to listen to and address the concerns of citizens who are affected by oil and gas operations near their homes. Please have all of those persons who had complaints contact this office and we will make arrangements to meet with them singly or in a group as is necessary.

As per your specific concerns:

- 1. AEC is monitoring hydrogen sulfide emissions as is required by this office under Rule 118.
- 2. The spills you reported were reported by the operator and appropriately remediated.
- 3. The bird netting was torn by weather and has been repaired as it is each time it is torn.
- 4. Any individual impacted by an NMOCD permit can request a public hearing on the matter or submit comments on the application to the Director.
- 5. Requiring all operators to obtain NPDES permits to cover accidental discharges is impractical and inappropriate.

Please explain Navajo EPA's authority, responsibility, and jurisdiction over AEC in these matters so that we can adequately respond.

April 12,1993 Frank Chavez, Azto OCD



OIL CONSER .- JN DIVISION RECE VED

193 APH 6 AM 8 51

American Exploration Company

CERTIFIED MAIL

March 29, 1993

New Mexico Oil Conservation Division **Aztec District Office** 1000 Rio Brazos Road Aztec, New Mexico 87410

Attention: Mr. Denny G. Foust

Hospah Field, McKinley County, NM Re:

Dear Denny:

In response to your March 15, 1993 letter and subsequent conversations and faxes, attached is the site investigation procedure for determining potential hydrocarbon contamination of the arroyos in the Hospah Field. Field sampling activities are scheduled to begin on April 2, 1993. Any questions concerning this project may be directed to me at (713) 756-6499.

Sincerely,

AMERICAN EXPLORATION COMPANY

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OIL CON. DIV.

DIST. 3

Lloyd H. Hetrick Manager - Environmental, Health & Safety

LHH:mm Attachment

Rod Oxford cc: Bob McBride **Bill Priebe** Donnie Hill (BC & D Oil & Gas) Bill Olson

L-039

HOSTAH FIELD REMEDIATION PROJECT

FOR POTENTIAL HYDROCARBON CONTAMINATION OF THE ARROYOS

March 29, 1993; L. H. Hetrick

I. Site Investigation of the Arroyos - By American Exploration Company

A. Scope of the Investigation Phase

The scope of this investigation is to evaluate the Hospah Field for potential hydrocarbon impacts on the Sandoval Arroyo resulting from numerous years of produced water discharges. A series of downstream samples will be obtained at each discharge location from the surface to -60" subsurface and analyzed for petroleum hydrocarbons using GC methods. Sampling sites will include the following discharge locations:

- HSU/SFRR "A" Facility Outfall
- Hanson Federal Facility Outfall
- SFRR Facility Outfall
- Intermediate and Final Skimming Pits in the Sandoval Arroyo

See attached field map for these locations.

Note that the SFRR "B" Facility has not historically discharged into the Arroyo and is beyond the scope of this investigation.

- B. Items Furnished by American Exploration Company
 - 1. Lab sample bottles, paperwork and shipping containers for compliance with EPA protocols.
 - 2. Fresh water and garden hose type sprayer for washdown.
 - 3. Field sampling procedure, which shall be approved by the NMOCD before work begins.
- C. Items Furnished by Stewart Brothers
 - 1. Rig, sampling equipment and labor as per March 23, 1993 letter.
 - 2. Personal protective equipment as deemed necessary to perform the sampling.
 - 3. New rags and brushes for cleaning the sampling equipment between borings.
 - 4. Survey stakes and measuring tape.

- D. Analytical Services by Southern Petroleum Labs
 - 1. Technical Advisor David Summers
 - 2. Project Manager Scott Sample
- E. Procedure for Investigation Phase
 - 1. Mobilize rig and sampling equipment to the Hospah Field at the HSU/SFRR "A" Facility, skimming pit outfall pipe.
 - 2. Starting with the outfall pipe as location 0, measure and stake locations in 10 yard intervals down the Arroyo, continuing out to 100 yards total. Each stake should be placed along the side of the Arroyo and identified as 0, 10, 20, 30, through 100 accordingly, with a total of eleven locations.
 - 3. Auger with rig or hand tools in the center of the Arroyo (as practical) at each of the eleven locations to a depth of 60" below surface. A soil sample should be obtained from the surface (0") and subsurface at each -6", -12", -24" and -60" for a total of five samples collected per boring. The sampling and augering equipment should be brushed and rinsed-out after each hole is sampled to prevent contamination of later samples.
 - 4. If the hand auger is used and cannot penetrate the entire depth, then get whatever shallower samples that are possible. In either situation, hand auger or rig auger, the bore hole should be back filled with native soils.
 - 5. Each sample should be placed in an individual jar, sealed and identified by each:
 - Outfall location (HSU/SFRR "A" Facility)
 - Location stake (0 through 100 yards)
 - Depth of sample (0" through 60")

Note that these labels and the Chain-of-Custody will be pre-filled out and provided with the sample bottles and shipping containers.

- 6. Once all eleven staked locations have been sampled, a total of 55 sample bottles (11 locations times 5 samples each) should be placed on ice or in the refrigerator to 39°F (4°C).
- 7. All 55 samples will be kept and shipped together in the same container and not mixed with other samples taken from other outfall sites.
- 8. Ship the container, complete with Chain-of-Custody to SPL in Houston, as per the provided prepaid Federal Express manifest.
- 9. Repeat steps 1. through 8. for the remaining outfalls at the Hanson Facility, SFRR Facility and the Skimming Pits.

10.

Upon receipt of the samples at the lab, American Exploration will direct the lab to run a diesel analysis, ASTM 3328 or hold the samples accordingly for each outfall site:

Stake <u>Location</u>	Sample @ Depth <u>0"</u>	Sample @ Depth <u>-6"</u>	Sample @ Depth <u>-12"</u>	Sample @ Depth <u>-24"</u>	Sample @ Depth <u>-60"</u>
0	Run	Run*	Run	Run	Hold
10	Run	Run*	Run	Hold	Hold
20	Run	Run	Run	Hold	Hold
30	Run	Run	Hold	Hold	Hold
40	Run	Hold	Hold	Hold	Hold
50	Hold	Hold	Hold	Hold	Hold
60	Hold	Hold	Hold	Hold	Hold
70	Hold	Hold	Hold	Hold	Hold
80	Hold	Hold	Hold	Hold	Hold
90	Hold	Hold	Hold	Hold	Hold
100	Hold	Hold	Hold	Hold	Hold

- * Note that these two samples will have both a diesel analysis ASTM 3328 and gasoline analysis SW 846, 8015.
- 11. Upon receipt of the above results, American Exploration will run additional samples if necessary to define the limits of 100 mg/kg hydrocarbon impacts.
- 12. All results will be provided to the NMOCD and B C&D Oil & Gas Corp. immediately upon receipt.

II. Site Remediation - By B C&D Oil & Gas Corp.

A. Scope of the Remediation Phase

This portion of the project will restore the hydrocarbon impacted soil identified in Part I. to levels below 100 mg/kg.

B. Procedure for the Remediation Work

This procedure will be submitted to the NMOCD by approximately April 23, 1993 and shall begin field work by May 3, 1993. The procedure employed by B C&D will be pre-approved by the NMOCD and American Exploration Company.

FIELD SAMPLING RECORD AND LAB ANALYSIS INSTRUCTIONS

Discharge	Point:		
Sampling	Date:	By:	

I. Samples Obtained

0 - 0"	0 - 6"*	0 - 12"	0 – 24"	0 - 60"
10 - 0"	10 - 6"*	10 - 12"	10 – 24"	10 - 60"
20 0"	20 - 6"	20 - 12"	20 – 24"	20 - 60"
30 - 0"	30 - 6"	30 - 12"	30 – 24"	30 - 60"
40 - 0"	40 - 6"	40 - 12"	40 – 24"	40 - 60"
50 – 0"	50 - 6"	50 - 12"	50 – 24"	50 - 60"
60 - 0"	60 – 6"	60 - 12"	60 - 24"	60 - 60"
70 – 0"	70 – 6"	70 - 12"	70 – 24"	70 – 60"
80 - 0"	80 — 6"	80 - 12"	80 - 24"	80 - 60"
90 – 0"	90 - 6"	90 - 12"	90 – 24"	90 - 60"
100 - 0"	100 - 6"	100 - 12"	100 - 24"	100 - 60"

11. Analysis Instructions

- 1. Any sample crossed—out was not obtained due to field constraints, therefore no analysis.
- 2. Any sample with the letter H should be held at 4 degrees C until further instructions are given.
- 3. Any sample with an * should be run using ASTM 3328 and SW 846, 8015.
- 4. All other samples should be run using ASTM 3328 only.



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HOSPAH FIELD REMEDIATION PROJECT

FOR POTENTIAL HYDROCARBON CONTAMINATION OF THE ARROYOS

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March 24, 1993; L. H. Hetrick

I. Site Investigation of the Arroyos - By American Exploration Company

A. Scope of the Investigation Phase

The scope of this investigation is to evaluate the Hospah Field for potential hydrocarbon impacts on the Sandoval Arroyo resulting from numerous years of produced water discharges. A series of downstream samples will be obtained at each discharge location from the surface to -60" subsurface and analyzed for total petroleum hydrocarbons using EPA method 503 B/E. Sampling sites will include the following four discharge locations:

- HSU/SFRR "A" Facility Outfall
- Hauson Federal Facility Outfall
- SFRR Facility Outfall
- Final Skimming Pit Outfall

See attached field map for these locations.

Note that the SFRR "B" Facility has not historically discharged into the Arroyo and is beyond the scope of this investigation.

- B. Items Furnished by American Exploration Company
 - 1. Lab sample bottles, paperwork and shipping containers for compliance with EPA protocols.
 - 2. Fresh water and garden hose type sprayer for washdown.
 - 3. Field sampling procedure, which shall be approved by the NMOCD before work begins.
- C. Items Furnished by Stewart Brothers
 - 1. Rig, sampling equipment and labor as per March 23, 1993 letter.
 - 2. Personal protective equipment as deemed necessary to perform the sampling.

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DRAFT 3. New rags and brushes for cleaning the sampling equipment between borings.

- 4. Survey stakes and measuring tape.
- D. Procedure for Investigation Phase

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- 1. Mobilize rig and sampling equipment to the Hospah Field at the HSU/SFRR "A" Facility, skimming pit outfall pipe.
- 2. Starting with the outfall pipe as location 0, measure and stake locations in 10 yard intervals down the Arroyo, continuing out to 100 yards total. Each stake should be placed along the side of the Arroyo and identified as 0, 10, 20, 30, through 100 accordingly, with a total of eleven locations.
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 - Outfall location (HSU/SFRR "A" Facility)
 - Location stake (0 through 100 yards)
 - Depth of sample (0" through 60")

Note that these labels and the Chain-of-Custody will be pre-filled out and provided with the sample bottles and shipping containers.

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- 8. Ship the container, complete with Chain-of-Custody to SPL in Houston, as per the provided prepaid Federal Express manifest.
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Upon receipt of the samples at the lab, American Exploration will direct the lab to run the analysis or hold* the samples accordingly for each outfall site:

Stake Location	Sample @ Depth <u>0"</u>	Sample @ Depth <u>-6"</u>	Sample @ Depth <u>-12"</u>	Sample @ Depth <u>-24"</u>	Sample @ Depth <u>-60"</u>
0	Run	Run	Run	Run	Run
10	Run	Run	Run	Run	Hold
20	Run	Run	Run	Run	Hold
30	Run	Run	Run	Hold	Hold
40	Run	Run	Run	Hold	Hold
50	Run	Run	Hold	Hold	Hold
60	Run	Run	Hold	Hold	Hold
70	Run	Hold	Hold	Hold	Hold
80	Run	Hold	Hold	Hold	Hold
90	Run	Hold	Hold	Hold	Hold
100	Run	Hold	Hold	Hold	Hold

* Note that maximum holding time is 28 days at 4°C for method 503.

- 11. Upon receipt of the above results, American Exploration will run additional samples if necessary to define the limits of 100 mg/kg hydrocarbon impacts.
- 12. All results will be provided to the NMOCD and B C&D Oil & Gas Corp. immediately upon receipt.

II. Site Remediation - By B C&D Oil & Gas Corp.

A. Scope of the Remediation Phase

This portion of the project will restore the hydrocarbon impacted soil identified in Part I. to levels below 100 mg/kg.

B. Procedure for the Remediation Work

This procedure will be submitted to the NMOCD by April 23, 1993 and shall begin field work by May 3, 1993. This procedure employed by B C&D will be pre-approved by the NMOCD and American Exploration Company.

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STATE OF NEW MEXICO

P.1

ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION AZTEC DISTRICT OFFICE



ANITA LOCKWOOD CABINET SECRETARY 1000 RIO BRAZOS ROAD AZTEC, NEW MEXICO 87410 (505) 334-6178

FAX TRANSMITTAL SHEET

DATE: 3/2 9 TO: Bill Olson OCN Se 0 FROM: D ENN OU FAX: 505-334-6170 COMMENTS: you have sussestions See 40~ Ä 0-n C NUMBER OF PAGES INCLUDING COVER:

MAR 25 '93 14:54 OCD AZOC NM SENT BY: HOUSTON 3-25-93 ; 9:39AM : AMERICAN EXPLORATION-

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AMERICAN EXPLORATIO COMPANY	DN Lloyd H. Hetrick Manager, Environment FROM Health and Safety 1331 Lamar, Suite 900 Houston, Texas 77010-3088 Direct: (713) 756-6000 FAX: (713) 756-6001
F	ΑΧ
Date: MARCH 24, 93	Comments: DENNY,
Cover and <u>3</u> page(s) to follow	ATTACHED IS A DRAFT
TO: DENNY FOUST	HOSPAH INVESTIGATION
Company: NMOCD	COMMENT. HAWKS Aleged
XNO.: 505-334-6170	

P.2

STATE OF NEW MEXICO



BRUCE KING

GOVERNOR

ENERGY, MINERALS and NATURAL RESOLUTED OIL CONSERVATION DIVISION RECEIVED AZTEC DISTRICT OFFICE '93 MAY 25 AM 9 04 ANITA LOCKWOOD CABINET SECRETARY

1000 RIO BRAZOS ROAD AZTEC, NEW MEXICO 87410 (500) 334-6178

March 22, 1993

American Exploration Company Attn. Rod Oxford 1331 Lamar, Suite 900 Houston, TX 77010-3088

RE: Oil Conservation Division Rules applicable to remediation of hydrocarbons along arroyos in the Hospah Field, Mckinley County, New Mexico

Dear Mr. Oxford:

The New Mexico Oil Conservation Division has directed American Exploration to remediate contamination along arroyos below discharge points in the Hospah Field under Rule 3 and Rule 313. The Oil Conservation Division has also been granted authority to protect human health and the environment under the New Mexico Oil and Gas Act.

The Oil Conservation Division can document produced water discharges to the surface drainages for thirty-five years. No single event or period is indicated to be the source of hydrocarbon contamination within the arroyos. The contamination is believed to be the result of more than thirty-five years of produced water discharges. On a field inspection trip by Kathy Brown of the OCD Santa Fe office and myself, samples were taken and subsequently analyzed for Total Petroleum Hydrocarbon. Results from these samples (see your files) indicate a problem with hydrocarbon contamination from your outlet points downstream to at least your final skimming pond located in P-6-17N-08W, Mckinley County, New Mexico. The Oil Conservation Division needs to know the extent of this contamination, method and schedule for remediation. American Exploration will adhere to the time schedule outlined previously and approved by District III Supervisor Frank Chavez.

Yours truly,

Demp 3, Hourt

Denny G. Foust Environmental Geologist

XC: **OGDENVIRONMENTAL BURGAUS** Environmental File DGF File



STATE OF NEW MEXICO ENERGY, MINERALS and NATURAL REBOURGES DIVISION OIL CONSERVATION DIVISION AZTEC DISTRICT OFFICE - MOR 1 (1) - OFFIC

AZTEC DISTRICT OFFICE 93 MAR 16 AM 8 48

BRUCE KING

ANITA LOCKWOOD CABINET SECRETARY IQU RIO BRAZOS ROAD AZTEC, NEW MEXICO 87410 (500) 334-6178

Certified Mail Receipt #P 987 892 057

March 15, 1993

American Exploration Company Attn. Lloyd Hetrick Manger Environment Health and Safety 1331 Lamar, Suite 900 Houston, TX 77010-3088

RE: Remediation of hydrocarbon contamination along arroyos in Hospah Field, Mckinley County, New Mexico

Dear Mr. Hetrick:

American Exploration Company has not complied with two prior requests in writing to submit a proposal for evaluating hydrocarbon contamination along arroyos at the Hospah Field and to submit a time schedule for the remediation of hydrocarbon contamination. American Exploration Company is directed to submit to the New Mexico Oil Conservation District III office a proposal for evaluating the contamination in the arroyos at the Hospah Field downstream from your tank batteries by March 29, 1993. Evaluation is to start by April 5, 1993, and a remediation plan is to be submitted to the Oil Conservation Division after evaluation. Actual remediation is to start by May 3, 1993. Any remediation plans must consider Bureau of Land Management regulations for moving contaminated material from federal leases.

Failure to comply with Oil Conservation Division Rules and Regulations will result in fines of \$1,000 per day per violation from the date of this letter and cancellation of allowables for wells in Hospah Field on March 29, 1993. If you have questions concerning these requirements please feel free to contact this office.

Yours truly,

Geny 2 Land

Denny G. Foust Environmental Geologist

XC: OCD-Environmental Bureau Don Ellsworth-BLM Environmental File DGF File Billy M. Priebe-American



PETERSON ZAH PRESIDENT

March 5, 1993

MARSHALL PLUMMER VICE PRESIDENT

Mr. William J. LeMay, Director New Mexico Oil Conservation Division P.O. Box 2088 Sante Fe, NM 87504-2088

Re: American Exploration Company, Hospah, N.M. Operations

Dear Mr. LeMay,

The Navajo Nation respectfully requests that the New Mexico Oil Conservation Division (NMOCD) hold a public meeting concerning American Exploration Company's (AEC) oil production operations and environmental remediation activities in the Hospah Oil Field in McKinley County, New Mexico.

The Navajo Nation's interest in AEC's facilities and clean-up activities are based on concerns raised by some Navajo residents of the affected area, on my staff's observations during visits to the Hospah Oil Field, and on various field studies that have been conducted by state, federal and private agencies since July of last year.

Prior to US EPA's September 11, 1992 order requiring AEC to cease unpermitted discharges to Sandoval Arroyo, Navajo residents living adjacent to tank batteries complained about chronic hydrogen sulfide emissions and their noxious effects. They are currently concerned about the possibility of the emissions being re-initiated and whether remediation associated with the discharge locations and tank batteries will proceed to their benefit at some time in the future.

In addition to the issues cited above my staff observed several problems of special concern associated with the AEC ponds at Hospah during a site tour on February 18, 1993. The first problem was an unpermitted discharge to Sandoval Arroyo from ponds in T17N R9W SEC1. The second problem was an open gate providing human/animal access to ponds containing oily water in T17N R8W SEC6. The third problem was torn netting for the protection of migratory birds over the ponds in T17N R8W SEC6 and T17N R8W SEC7. These are problems which require the immediate attention of your staff since they violate NMOCD, NMWQCC and even USEPA regulations.
It is my understanding that AEC has submitted a Plan of Operations pursuant to NMOCD Rule 711 and that you have in turn notified AEC that operations under such a permit will require hydrogen sulfide emissions monitoring as well as the support of an NPDES permit issued by USEPA for discharge authorization (see letter to AEC from Kathy Brown, NMOCD, January 26, 1993). It is also my understanding that AEC is preparing a remediation plan for facilities and contaminated areas in the field.

All of the matters discussed above are of great interest to the Navajo Nation and to the Navajo people who live in the area. A public meeting on AEC's proposed Rule 711 permit and its remediation program will allow local input in your process and help clarify the company's plans and your schedule for approving them. A meeting would also allow the Navajo Nation Environmental Protection Administration (Navajo EPA) staff to comment on American Exploration's current and future operations.

Navajo EPA will continue to monitor the progress on AEC's application for a federal NPDES permit. However, we are presently under the advisement of Lee Gibson with USEPA Region VI that AEC may withdraw their intent to pursue such a permit. In the event that the company would chose to discontinue discharging and instead inject all produced water, we would recommend that they still be required to obtain an NPDES permit to cover emergencies such as failure of injection pumps since it is apparently such a failure that created the unpermitted discharges observed by my staff on February 18, 1993. The alternative would be for them to develop an adequate contingency plan to cover unplanned discharges which would still meet USEPA, NMOCD and NMWQCC standards. We hope that the various state and federal permits being proposed for the Hospah operations can be coordinated to prevent new releases and to remediate past pollution.

My staff will be happy to work with your staff to find a mutually convenient location for a meeting. We prefer that you schedule the meeting at a location near Hospah, such as the Whitehorse Lake or Crownpoint Chapter House, to facilitate the attendance of the local residents. Amos Johnson or Bonnie Koch of my staff will serve as the Navajo Nation EPA liaison for this matter. Mr. Johnson can be reached at (602) 729-4147 and Ms. Koch can be reached at (602) 871-7040. Please do not hesitate to call them for any other questions of concerns you may have.

Sincerely,

Sadie Hoskie, Director Navajo Environmental Protection Administration xc: Charlotte Benson-Crossland Department of Justice Natural Resources Unit

Thommy Chavez, Councilman Whitehorse Lake Chapter

Lee Gibson USEPA, Region VI, Industrial Permits Section, 6-WPI 1445 Ross Ave. Dallas, TX 75202

Jim Piatt NMED, Surface Water Bureau P.O. Box 26100 Sante Fe, NM 87502

Don Ellsworth Bureau of Land Management 1235 La Plata Highway Farmington, NM 87401

Lena Tsosie HCR 79, Box 100 Whitehorse Lake Chapter Cuba, NM 87013

Jean Yazzie HCR 79, Box 100 Whitehorse Lake Chapter Cuba, NM 87013 STATE OF NEW MEXICO



ENERGY, MINERALS and NATURAL RESOURCES DIVISION OIL CONSERVATION DIVISION AZTEC DISTRICT OFFICE 93 MAR 15 AM 8 48

BRUCE KING GOVERNOR ANITA LOCKWOOD CABINET SECRETARY 1000 RIO BRAZOS ROAD AZTEC, NEW MEXICO 87410 (500) 334-6178

Certified Mail Receipt #P 987 892 057

March 15, 1993

American Exploration Company Attn. Lloyd Hetrick Manger Environment Health and Safety 1331 Lamar, Suite 900 Houston, TX 77010-3088

RE: Remediation of hydrocarbon contamination along arroyos in Hospah Field, Mckinley County, New Mexico

Dear Mr. Hetrick:

American Exploration Company has not complied with two prior requests in writing to submit a proposal for evaluating hydrocarbon contamination along arroyos at the Hospah Field and to submit a time schedule for the remediation of hydrocarbon contamination. American Exploration Company is directed to submit to the New Mexico Oil Conservation District III office a proposal for evaluating the contamination in the arroyos at the Hospah Field downstream from your tank batteries by March 29, 1993. Evaluation is to start by April 5, 1993, and a remediation plan is to be submitted to the Oil Conservation Division after evaluation. Actual remediation is to start by May 3, 1993. Any remediation plans must consider Bureau of Land Management regulations for moving contaminated material from federal leases.

Failure to comply with Oil Conservation Division Rules and Regulations will result in fines of \$1,000 per day per violation from the date of this letter and cancellation of allowables for wells in Hospah Field on March 29, 1993. If you have questions concerning these requirements please feel free to contact this office.

Yours truly,

Denny 2. Luy

Denny G. Foust Environmental Geologist

XC: OCD Environmental Buneau

Don Ellsworth-BLM Environmental File DGF File Billy M. Priebe-American

STATE OF NEW MEXICO OIL CONSERVATION DIVISION	RANDUM OF MEETING	G OR CONVE	RSATION	
Z Telephone Personal	Time 9:00 A.M	ŋ.	Date March 4, 1993	
Originating Party			Other Parties	
Denny Foust		Ka	thy Brown	
OCD Aztec		ach Santa Fe		
Hospah - Sp	sill		-	
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OIL CONSERVE FUN DIVISION RECEIVED

American Exploration Company 93 MAR 15 AM 10 14

March 1, 1993

New Mexico Conservation Division 1000 Rio Brazos Road Aztec, NM 87410 ATTN: Denny Foust

MAR 8 1993 OIL CON. DIV DIST. 3

Dear Mr. Foust:

On 2/19/93 between 9:00 a.m. and 12:00 (noon), the injection pumps at the Hospah Sand Unit Facility air locked. At this time the produced water holding tanks high leveled floating approximately 10 barrels of oil to the first earth pit. Water continued to be discharged to the earth pits causing them to overflow discharging approximately 50 barrels of produced water to the wash below the pits. The water flow reached the first skimmer below the facility. When it was discovered that the pumps were air locked, the air was bled off and normal operations resumed. Oil was skimmed from the first pit.

On 3/02/93 at 5:30 p.m. a water dump valve on the heater treater at the Hospah Sand Unit Facility hung in the open position which diverted approximately 25 barrels of produced water and oil to the first earth pit. Approximately 10 barrels of produced water was displaced to the wash. The dump valve was repaired and oil was skimmed from the pit.

Sincerely,

A.D. Jones Production Foreman

CC: Lloyd Hetrick File

511 West Ohio, Suite 202, Midland, Texas 79701, Telephone: (915) 687-0587 700 Louisiana, Suite 2100, Houston, Texas 77002-2791, Telephone: (713) 237-0800

STATE OF NEW MEXICO MEMORANDUM OF MEETING OR CONVERSATION Time Date X Telephone Personal 3/1/93 9.00 Originating Party Other Parties Bonnie Roch Kathe avaro pdate -American Exploration Compuny (AEO) Called to underte OCD on Hospahr. Dallas EPA has stainformed them that AEC is no longer going to discharge produced water and there fire won't be applying for a NPDES permit. They are going to entirely to injection. The discharge reported last due to a bolan pump has ceased because. pump been fixed. The Navajo's would like to be involved the proposed remediation. They are also going to request a public meeting be held on the reservation so that the remoduation and the H2S monitoring can be discussed keep EPANavajo updated Will also amonge a (J)|| (public meeting upon receipt of letter stribution Signed ~ Lethe, -f-le

State of New Mexico ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT Santa Fe, New Mexico 87505				
STATE OF NEW MEXICO CONSERVATION OVISION MEMORANDUM OF MEETING OR CONVERSATION				
Telephone Personal Time //00	hrs Date 2/23/93			
Originating Party	Other Parties			
Bognie Koch - Navijo EPA Bill Olson - Envir. Burean (602) 871-7186				
AEC Hospah field				
Discussion She was at Hospah field recently and observed discharge of produced water into acroyo from one at the table but teries. Discharge at approx. 5-10 5pm Company told her it was emersonal discharge because injection well was having problems				
J will forward into to Kath, and ask Denny to chack it out				
Distribution Denny Foust Kathy Brown	ined MA Can			



OIL CONSERVE ON DIVISION RECEIVED *93 FEB 12 AM 8 46

SOUTHWEST RESEARCH AND INFORMATION CENTER P.O. Box 4524 Albuquerque, NM 87106 505-262-1862

February 5, 1993

Mr. Lee Gibson Industrial Permits Section, 6-WPI U.S. Environmental Protection Agency, Region VI 1445 Ross Avenue Dallas, TX 75202

Re: American Exploration Company Hospah, N.M., Oil Field NPDES Application

Dear Mr. Gibson:

As promised, I have copied and enclosed documents related to the American Exploration Company operations in the Hospah Oil Field, McKinley County, New Mexico. The documents cover a period of July 1992 through January 1993. Additional documentation that predates this material is available in the files of the New Mexico Oil Conservation Division.

Based on our telephone conversation of January 27, 1993, it is my understanding that EPA's processing of AEC's application for a National Pollution Discharge Elimination System (NPDES) permit is on hold pending submittal by the company of detailed waste characterization and effluent toxicity testing data for produced water generated by its operations. Southwest Research and Information Center (SRIC) requests copies of those data when they become available.

Upon visiting the Hospah Oil Field on the afternoon of January 29, 1993, I observed no discharges emanating from any of the four tank batteries in the field. There were no discernable hydrogen sulfide odors in the area other than immediately adjacent to one of the tank batteries.

I spoke again on that same day with local residents who continued to express concern about the potential for generation of hydrogen sulfide should the discharges resume. I expect that those residents will communicate their concerns directly to EPA.

Please feel free to call if you have questions.

For 20 years a continuing tradition of effective citizen action printed on 100% recycled paper Mr. Lee Gibson, USEPA-VI February 5, 1993 page 2

Sincerely,

Chris Shuey, Director Community Water Quality Program

Enclosures as stated.

xc: Roger Anderson, NMOCD/Environmental Bureau Sadie Hoskie, Navajo Nation EPA Glenn Saums, NMED/Surface Water Bureau Lena Tsosie, Hospah, N.M. Jeannie Yazzie, Hospah, N.M.

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STATE OF NEW MEXICO

THE STATE OF LEVEL

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING GOVERNOR

ANITA LOCKWOOD CABINET SECRETARY

January 26, 199

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

CERTIFIED MAIL RETURN RECEIPT NO. P-667-241-936

Mr. Lloyd H. Hetrick American Exploration Company 1331 Lamar Street, Suite 900 Houston, Texas 77010-3088

RE: Information for OCD Rule 711 Compliance American Exploration Company Hospah Field McKinley County, New Mexico

Dear Mr. Hetrick:

The Oil Conservation Division (OCD) has received and is in the process of reviewing the above referenced application for a centralized surface disposal facility located in Township 18 North, Range 9 West, and in T17N, R9W, and T17N, R8W, NMPM, McKinley County, New Mexico. The following comments and requests for additional information are based on review of the application, dated November 20, 1992. In order for the review process to continue the OCD requires the following information:

- 1. <u>Facility Diagram</u>: The OCD requests that American Exploration (AE) submit a detailed diagram of the facility which includes the following information:
 - a. Field boundaries including any appropriate fences and berms;
 - b. The four (4) oil/water separation facilities including inlet and outlet points and all ponds, pits, pipings and tanks;
 - c. Drainage ditches from the point of discharge at the separation facilities to the point of entry into Sandoval Lake.

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- d. Location of the landing strip and proposed soil remediation area;
- e. Office and maintenance buildings including all centralized drum or tank storage areas.

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- 2. <u>Landowners and Occupants</u>: The OCD is concerned about the impact of disposal facilities to landowners and private residences. The OCD will give written notice of the application to all owners of surface lands and occupants both at and within one-half (1/2) mile of the proposed centralized disposal site. Please provide the OCD with a list of names and addresses of all landowners and occupants both at and within one-half mile of the facility.
- 3. <u>NPDES Permit</u>: The OCD acknowledges that all surface discharges to Sandoval Lake have ceased and will not resume unless AE obtains an NPDES Permit from the Environmental Protection Agency (EPA). Upon obtaining an NPDES permit from the EPA the proposed OCD 711 permit, if approved, will need to be modified to reflect this permitted discharge. Please note the OCD will require that all surface discharges meet the appropriate New Mexico Water Quality Control Commission (WQCC) water quality standards.
- 4. <u>Separation Facilities</u>: The OCD will allow AE to use the existing unlined ponds for settling of produced water prior to injection. The OCD will not allow the ponds to be used for oil/water separation or for the storage of oil. Note that OCD Rule 310 prohibits oil from being stored or retained in earthen reservoirs or in open receptacles. Please submit an alternative plan for the separation of oil and water at the facility. In addition, AE has committed to close or line the ponds by December 31, 1995. Please submit a plan for either closure or lining of the ponds prior to December 31, 1995 for OCD approval. To aid you in your engineering plans I have enclosed the OCD guidelines for "Below-Grade Tanks," "Waste Storage/Disposal Ponds," and "Surface Impoundment Closure".
- 5. <u>Protection of Fresh Water</u>: The OCD is concerned with the impact of your operations on fresh water in the area. Please submit the location, by quarter/quarter section, of all water wells drilled or hand dug within one-half (1/2) mile of your facility. Include all available data for the wells including aquifer name, well depth, water level, date drilled, water quality, and type of well (ie. domestic, stock, community water supply). Describe any current or proposed water monitoring plans designed to ensure that fresh water has not or will not be contaminated.

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- 6. <u>Soil Remediation</u>: Please submit a detailed diagram of the landing strip area identifying the location of the planned oily soil remediation area in relation to the area used for aviation activities. How does AE plan to prohibit the blowing of oily soils caused by winds generated from aviation activities? The OCD has stringent requirements for the operation of all commercial and centralized landfarms. Attached are the current OCD guidelines for the operation of landfarms. AE must either commit to the attached guidelines or propose an alternative plan of operations with sufficient justification that your operations will not endanger human health or the environment.
- 7. <u>Berming of Tanks</u>: The OCD requires all above ground tanks other then fresh water to be bermed to contain a volume one-third more than the largest tank or all interconnected tanks, and to be placed on gravel pads. Do all of the tanks at your facility meet the OCD berming requirements? If not, submit a time schedule for meeting these requirements.
- 8. <u>H2S Monitoring</u>: The OCD is currently revising all surface disposal facility permits to include specific requirements for H2S monitoring and contingency plans. This includes, but is not limited to, measuring the concentrations of H2S around the perimeter of the ponds and dissolved oxygen and sulfide levels within the ponds. Approval of all OCD 711 surface disposal facilities will be subject to specific H2S monitoring and contingency plans.

Submission of the above requested information will allow the review process to continue. If you have any questions please do not hesitate to contact me at (505) 827-5884.

Sincerely,

Kathy M. Brown

Kathy M. Brown Geologist

Enclosures

xc: Denny Foust, OCD Aztec Office
Jim Walker, U.S. EPA Region IX
Sadie Hoskie, U.S. EPA Navajo Nation Division
Chris Shuey, Southwest Research and Information Center

CHECKLIST FOR COMPLIANCE WITH RULE 711

FACILITY NAME: American Exploration Company AREA: Hospah Field LOCATION: TIBN, RAW & TITN, RAW, & TITN, RBW MAILING ADDRESS: American Exploration Company 1331 Lamar Street, Suite 908 Houston, Texas 77010-3088 CONTACT PERSON: Lloyd H. Hetrick Bill Priebe (Operations Managor) (Environmented Manager) 713/756-6497 915/687-0587 PHONE NO.: DATE OF REVIEW: January 1993

1. Affidavit of verification (disposal application signed).

Signed affidavit

2. OCD public notice issued (commercial facilities).

Not necessary for centralized facilities

3. Proof that owners and occupants within 1/2 mile were notified, including copy of letter, certified mail receipt, names and addresses.

Not necessary for centralized facilities. Will request address & names of landonners & adjacent landonners

- A \$25,000 bond is required as of 12/30/88 for commercial facilities prior to commencing 4. construction. Not required for centralized facilities
- 5. Plat and topo maps showing location in relation to governmental surveys and roads, watercourses, water wells and dwellings within one mile.

Need diagram indicating location of tank butters, unlined pits, drainage ditches, Sandaral Arrayo, landing stup, office & maintenance buildings. Names and addresses of facility site landowners and landowners of record within one-half

6. mile.

Not included- need

7. Description of facility with a diagram indicating location of fences and cattleguards, and detailed engineering construction/installation diagrams of pits, liners, dikes, piping, sprayers, and tanks.

Not included-need

- 8. Routine inspection and maintenance plan requires commitments to Rule 711 operating requirements including:
 - a. Monthly reports kept on site (2 year retention period) of source, location, volume and type of waste, date of disposal, and hauling company that disposes of wastes at the facility. $N \cap$
 - b. Disposal permitted only when attendant is on duty, otherwise the facility must be secured.
 - c. Netting requirements, may be waived by District Supervisor. Have addressed
 - d. All motor vehicles transporting produced water to the facility must have a valid Form C-133, on file with the Division.

NA

9. Plan for disposal of approved waste solids or liquids.

Need to address solid desposed Landingstrip for contaminated soils

- 7. Geohydrological evidence that fresh water will not be affected.
- 10. Contingency plan for reporting and cleanup of spills or releases.

Mes, very complete, Miso, need commitment to OCD Rule 116

11. Closure plan. After operations have ceased for 6 consecutive months the OCD must be notified and and clean-up operations initiated.

Need commitment



HospaH Landform



Hospath LandForm G/12/47

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Hosperh - Landform
