

DEPUTY OIL & GAS INSPECTOR JICARILLA APACHE TRIBE
ENVIRONMENTAL PROTECTION OFFICE
FEB 03 1999 P.O. BOX 507
DULCE, NEW MEXICO 87528

SUBMIT TO
NATURAL RESOURCE DEPT
AND OIL & GAS ADMINISTRATION

PIT REMEDIATION AND CLOSURE REPORT

and Type: JICARILLA APACHE RESERVATION

Direction from reference: _____ Degrees _____ East North _____
 _____ West South _____

Less than 100 feet (20 points)
100 feet to 1000 feet (10 points)
Greater than 1000 feet (0 points) 0

RANKING SCORE (TOTAL POINTS):

Date Remediation Started: 9/28/98 Date Completed: 10/8/98

Remediation Method: Excavation X Approx. cubic yards 6720

(Check all appropriate sections)

Landfarmed X

In situ Bioremediation _____

Other _____

Remediation Location: Onsite X Offsite _____

(i.e. landfarmed onsite, name and location of offsite facility)

General Description of Remedial Action: ON-SITE LAND FARMING

Groundwater Encountered: No X Yes _____ Depth _____

Final Pit: Sample location _____

Closure Sampling: JICARILLA 92#9

(if multiple samples, attach sample results and diagram of sample locations and depths) Sample depth 30' + SIDE WALLS

Sample date 10/8/98 Sample time 1515

Sample Results

BOTT WALL

Soil: Benzene (ppm) ND/ND Water: Benzene (ppb) _____

Total BTEX (ppm) 3.970/.007 Toluene (ppb) _____

Field Headspace (ppm) 420/41 Ethylbenzene (ppb) _____

TPH (ppm) 120/ND Total Xylenes (ppb) _____

Groundwater Sample: Yes _____ No X (If yes, attach sample results)

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

DATE 10/22/98 PRINTED NAME Don Fernald

SIGNATURE [Signature] AND TITLE Project Manager

AFTER REVIEW OF THE PIT CLOSURE INFORMATION, PIT CLOSURE IS APPROVED IN ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.

APPROVED: YES X NO _____ (REASON) _____

SIGNED: [Signature] DATE: 10/23/98

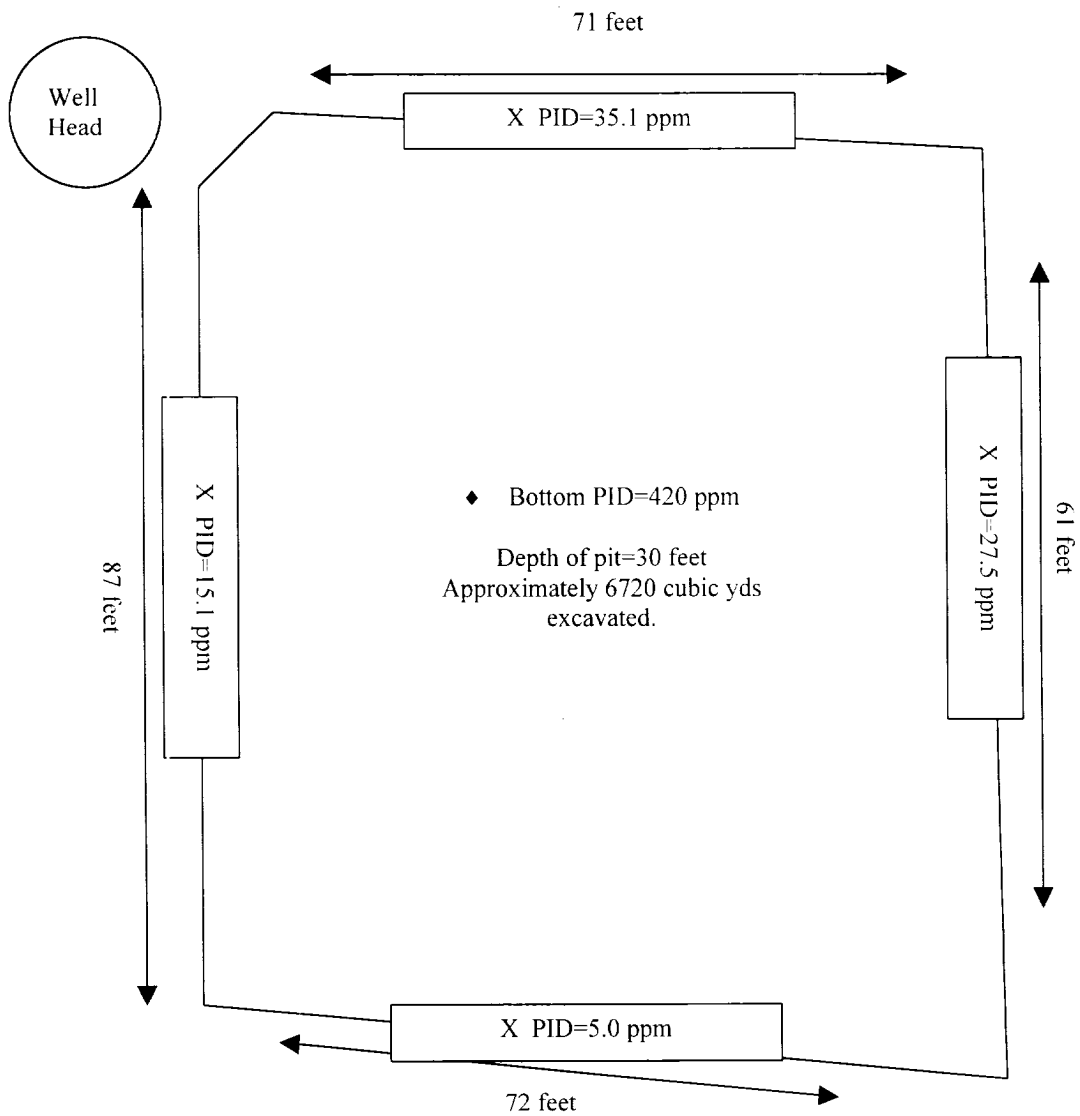
Drawing not to scale.

X=Wall Samples

◆=Bottom Sample



- Soil Samples Collected on 10/8/98;
Bottom Sample collected at 30 feet bgs



OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 19-Oct-98

Client:	Philip Environmental	Client Sample Info:	William Production Pit
Work Order:	9810021	Client Sample ID:	Jicarilla 92 #9 Sidewall
Lab ID:	9810021-01A	Matrix:	SOIL
Project:	18684 6500.77	Collection Date:	10/8/98 3:15:00 PM
		COC Record:	C2307

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		SW8015				Analyst: HR
T/R Hydrocarbons: C10-C28	ND	25		mg/Kg	1	10/16/98
GASOLINE RANGE ORGANICS		SW8015				Analyst: HR
T/R Hydrocarbons: C6-C10	ND	0.18		mg/Kg	1	10/15/98
BTEX		SW8020A				Analyst: DC
Benzene	ND	1		µg/Kg	1	10/15/98
Toluene	2.3	2		µg/Kg	1	10/15/98
Ethylbenzene	ND	1		µg/Kg	1	10/15/98
m,p-Xylene	3.3	2		µg/Kg	1	10/15/98
o-Xylene	1.4	1		µg/Kg	1	10/15/98

Qualifiers:

PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
B - Analyte detected in the associated Method Blank	Surr: - Surrogate

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 19-Oct-98

Client:	Philip Environmental	Client Sample Info:	William Production Pit
Work Order:	9810021	Client Sample ID:	Jicarilla 92 #9 Bottom
Lab ID:	9810021-02A	Matrix:	SOIL
Project:	18684 6500.77	Collection Date:	10/8/98 3:20:00 PM
		COC Record:	C2307

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		SW8015				Analyst: HR
T/R Hydrocarbons: C10-C28	ND	25		mg/Kg	1	10/16/98
GASOLINE RANGE ORGANICS		SW8015				Analyst: HR
T/R Hydrocarbons: C6-C10	120	9		mg/Kg	50	10/17/98
BTEX		SW8020A				Analyst: DC
Benzene	ND	50		µg/Kg	50	10/15/98
Toluene	300	100		µg/Kg	50	10/15/98
Ethylbenzene	330	50		µg/Kg	50	10/15/98
m,p-Xylene	2800	100		µg/Kg	50	10/15/98
o-Xylene	540	50		µg/Kg	50	10/15/98

Qualifiers:

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

ND - Not Detected at Practical Quantitation Limit

R - RPD outside accepted recovery limits

J - Analyte detected below Practical Quantitation Limit

E - Value above quantitation range

B - Analyte detected in the associated Method Blank

Surr: - Surrogate

Chain of Custody Record

(505) 326-2262 Phone
(505) 326-2388 FAX

(505) 326-2262 PHONE
(505) 326-2388 FAX

Relinquished by:				Received By:			
Signature	Date	Time	Signature	Date	Time		
Mary Kippel	10/18/98	1950	[Signature]	10/9/98	0907		
[Signature]	10/19/98	0916	[Signature]	10/9/98	0916		

Samples Iced: ☒ Yes ☐ No		Carrier:	Airbill No.
Preservatives (ONLY for Water Samples) ☐ Cyanide Sodium hydroxide (NaOH) ☐ Volatile Organic Analysis Hydrochloric acid (HCl) ☐ Metals Nitric acid (HNO ₃) ☐ TPH (418.1) Sulfuric acid (H ₂ SO ₄) ☐ Other (Specify) _____ ☐ Other (Specify) _____		Shipping and Lab Notes:	

9/29/98

Jicarilla 92 #9 18684 6500.28

Arrived at site at 0800 I showed
Rabbit the 1st 2 location off of
537 and we went to location
I am going to take him to
the Indian I next to get
him started

Steve offer will take Reading
while I am gone

Steve took Reading the whole
time I was gone

0830 W-1185 10' Bottom 1235 PPM 18'

N-W 5' 91.3 10' 105.6 PPM 15' 115.8 PPM

E-W 5' 88.7 10' 145 E Bottom 830 PPM 0911.4

We dug another bucket wide on this side
the Reading were

E-W 5' 0.0 PPM 5' OFF Bottom 2.0 PPM Bottom
38.9 PPM 17'

10:00 we took fence down the rest of the
way and removed stock tank I
measured pit it was $32 \times 19 \times 17 = 382 \text{ yd}$
Time 1030

at 1054 I talk to steve and told him
to dig as deep as he could because it
might clean up in 4' or 5' if not
he would have to bench down to
go further and he was still close enough

to Dig it 22' From Both sides
At 11:00 I went and Showed Rabbit
where the last 6 locations were
in the area where we are now
I took some more Reading on
West wall at 1130 the were
at 5' 899 PPM at Bottom 309 PPM
I talk to Ron and let him
know we were on the Hourly
Rate at 1230 the measurement was
~~42X19X19=5561~~ 42X19X19=5561

I Also told Ron we were going to have
to move the separator and the Meter House
and Run at this time He said
OK we took some more Reading
about 6' away from the Block where
the separator was sitting 0-10' the
soil was clean we check it
again at 12' it was 206 PPM
so we shut down unhooked the
separator and moved it so it wouldn't
fall in the hole we finish
this at 1330 and I went to
check on Rabbit

I shut Trackhoe down at 1400 because
of lightning I had Steve Glass
put up fence and took spike

UP TO Jicarilla 92 #16
to move some Big Rock out of
the land Farm For Rabbit it
started Raining about 1415

9/30/98

Jicorilla 92 #9 18684 6500.27
Arrived at 0800 work on
the tractor till about 0820 while
Rabbit and I work on tractor
Steve & Steve Took fence
down

I took some Reading on west
wall at 0820 I took a Reading
on the wall about 17' down and
the Reading was 1.6 PPM at
20' on the bottom it was 199 PPM
I ask Steve to start Bench down
so we can get go on down to 30'
or clean up

I left and went to the Indian #1
and sampled lead form

I Return at 11:00 Steve was done
Benching and Excavating contained soil
again I took a Reading at 24' it was
350 PPM we Excavated till about
1150 and shut down and went
to William BBQ

we Return about 1300 and
Steve started Excavating again
I took a Reading at 30' it was
450 PPM I told Steve to continue
Excavating

Martin & Ken came over
after BBQ and I showed them
this site and told them why they
were taking so long to excavate
and then we drove up to
Jicarilla 92 #4 and the #8 and
showed them the yardage on these
sites

I came back and Ron came
back from the BBQ we then went
to the Jicarilla 93 #12 and took
some reading on this land farm
they were all very low so I
took a sample it reading was
8.8 ppm after it was heated
we then came back & I told Steve
to keep digging until 1500 then
to come out so we could move
the water run & water house.

Ron & I broke out the water run
then Steve came over and we moved
the water run we then dug up the
1" line that was running in front of
water run we then shut down for
the day we return to start at 1800

Bench size 9X22X35 = 256

10/1/98

Jicorill 92 #9 18684 6500 77

Arrived at site at 0805

Took Fence down I told Steve
He need to dig His Bench down
another 5 or 6 feet so He could

Reach the Bottom

¹⁰⁵⁰
Spike Broke Hose on the
loaden so I sent Him to Town
to get it fix I also had him
go to Jay Lulus to get some
4 bolts more for The Tractor and
to Dee wees to check on
the pliers we had order

I also talk to Corlyn about
air monitoring She has another
pid in the shop for that

I called Spike and told him
to pick up Steve & Resator
when He was at the Shop
I also clean the light on
The TOX Rse and the sensor
module and than I calibrated it
ZERO - OK

Cal - OK

Check after cal 101 ppm
SPAN GAS - ISOBUTYLENE

Steve Gless Finish Ramp again
at 1145 we then ate lunch
and He started EXCAVATING

I called Steve A. at 12130
to see IF we could use HIS
to load to memo to spread
~~more~~ soil on the Jicarilla 93th
and the Jicarilla 92th then I
could use him on this location
to help spike get caught up
after to day

I took a Reading on the Bottom
it was 430 ppm

It started Rain about 1400. I shot
Steve down at 1415 so we
could go get Bruce we came
Back to location ~~at~~ and wait for a
while the Rain stop then it began
again so we put Keweenaw up and
came in

10/2/98

18624 6500 77

Arrived at site 0800 Steve
Glass Start Excavating about
0815

Spike & I put new hose on
and filled it up with hydraulic
fluid He started moving soil
about 0840

Rabbit put SHANK BACK on
the tractor and started plowing
JIC 92#9

I put PID on Steve Glass for
air monitoring

I took a reading IN the bottom it
was 967 ppm and it is very
sandy

I came back to location at 11:08 I
also check JIC 92#12 that Land Farm
still had reading over 200 ppm

I took reading on the Northwest
side it was 200 ppm IN the middle
on North side was over 1000 ppm and on
Northeast side it was over 900 ppm It
is hard to tell because it starts out
very high then jump down very
quickly

at 1400 we started digging up
The flow line from well head to

To where Separator was sitting
this took about 45 min. we then
started excavating again
at 1500 CORIN called and said
we had to swap out tractor
they had sold the 5400 I
called Eugene He said He would
swap them out for us.
we shut down at 1530 started
fenceing and left location at

I measured pit we are around 1800
yd now

AIR MONITORING Data

1000	1015	Stel	6.0
2:00	2:15	Stel	1.4
		Twg	11.2
		Peak	482-PPM

10/5/98

Jicorilla 92#9 08684 6500.77

Arrived at site 0805

Hook Rabbit up to the Emplacement
and He left at 0830.

Don Shipley came by He ask if
we need truck He said He
had 2 Betty Dump and 2 Tandems
He also said He had a Loadmaster
Operator if we need it

He said He would talk to
Mark Harvey ~~and~~ about his borrow
pit & I told him we would
talk to him also

I called & told Corina about this
and she suggest I call Don
Fernald and let him know
I called him He still He didn't
talk to Harvey and then I
lost him on his phone

I took ~~some~~^a Reading on the
East wall After Steve started
Excavation it was at 35 ppm
I told him we would call it as
a wall we were about 3' off
the bottom ~~He~~^{we} also took another
Reading on the North wall under

where He was sitting it was
150 ppm about 25' down IT
should clean up quick here I
think

I dug from noon till 12-30
and the TOE video showed up He
said He would like to work His
Truck He also said He had a
Borrow pit we could use
I talk to Corlyn She had
talk to Don Shipley He said
Mark Harvey said we could use
the Borrow pit But He want
some one to call Him

I took Reading on the North
Wall at 1635 they were on
the North East side 240 ppm about 2' off
the Bottom middle 600 ppm about 2' off
Bottom North west ~~side~~ side about 2' off
Bottom it was 148 ppm pit size
is 2416 Yd with out the Ramp

10/6/98

Jicarilla 92#9 Phase 6500.72

Arrived 0900 Started taking Fence down
then we started Excavating over Border
0930 went to the Jicarilla 92#15 and
check the Landform it was over
100 ppm Everywhere I checked

I also went and check the Jicarilla
it is still Hot over 200 ppm
in the area = checked

I went to where Steve A. was
at 1200 to get a Fuel Filter
For Spike Lodge I got Back
at 1310 we changed it out
I then went and took a
Reading of the North East corner
it was 35.6 ppm

I also Talk to Steve Glass
at this time and told him
he need to pick it up I told
him we had dug 8000 yd in 10
day and he had dug 3000 yd
in 8 day He said he was
doing the Best that he could
I told him I understood that
it was new to him and I told
him he could turn his ~~the~~ ^{Track}
around walk up to the Edge and

He wouldn't have to go up
over the Bank like he was
doing and it would be faster
that way. He kind of did
like I ask him to
during the whole conversation
I was nice and tried to help
him. I told him more than once
~~when~~ we talk that I wasn't yelling
but I was trying to tell him
a better way to do things with out
getting mad.

I also told him & Spike that
they had a problem with what the
other was doing to stop and talk
about it. They both said OK
we might get this side finished
today but I don't think so.

At 1420 I drove up to the
Jic 92#8 and check that landfill.
Most of it has come down
below 25ppm but a couple of
places were still over 100ppm.
It should clean up by the end
of the week then we can
spread the rest of the stockpile.

at 1600 I took Reading on the
North wall on ~~South~~ west side
it was 30.9 ppm in the middle
it was 89 ppm and on the
North East side it was 25.6 ppm
I told Steve to clean up the
Bottom and square the wall up
and we would call it good
we put fence up and
Fuel Equipment & left Location
at 1720

Total yd of GS of today
are 4446

10/17/98

Jicarilla 92nd 9 6500 77

Arrived at site 0745

I talk to Steve before we started this morning and told him I drew a picture of how I would like to dig this other side

They got started about 0805 excavating on the south side while spike started backfilling the ramp on the north side

I talk to Corlyn about 0810 and told her what was going on she told me Robert would be taking over for her Monday because she was going in to have her ~~her~~ baby ~~to Shirley~~

Steve quit digging over-burden at 1300 and walk down in the hole to start excavating contamination

Shirley Ebert with CONOCO came by to look at our pit she asked what our ~~reading~~ ^{reading} were when I told her they were around 2000 ppm she said that CONOCO only had to go below 5000 ppm on pit out side of the water vulnerable zone

and that they ONLY had to go down 20' because it was a safety issue and she said Keith sign off on all other pits

So I called Corlyn to let her know what was said she said she would let Don know and then go from there

1330 I took a reading on the west wall it was 7.6 ppm I then took a reading where Steve was working on the south wall it was 839 ppm

I left and went to the ⁹³⁴ ~~235~~ and check that yard area it had 1 hot spot in it that was 124 ppm I met Robby on the way back and told him where it was I didn't take readings around the stock pile

When I came back I took some readings on the south east corner it was 45 ppm we excavated till 1530 then we started fencing and greasing and fueling we left location 1620
Total Yard area 5351

1. The first step in the process is to identify the problem or issue that needs to be addressed. This involves gathering information and understanding the context of the problem.

I took Reading on the ~~North~~ ^{South} East
Corner they were 430 ppm ^{on} ~~the~~
side of the Trackhoe & 110 on the
other side This was at 1330
at 1400 ~~I~~ called COLLYN to find
out IF she Had Heard From ~~Don~~ ^{Don}
She gave me a list of ~~the ones~~ ^{the ones}
ones that were close and
the ones that Had to Be Risk
out I then talk to Don and
told Him what was going on and
where we stood I then ask
Him what Had to Be done on the
Risk assessment beside spraying
them He said He wasn't sure
we Finish digging out
at 1450

North-wall 35.1 PPM

South-wall 5.0 PPM

East-wall 27.5 PPM

West-wall 15.1 PPM

Bottom - 326 PPM

Composite - 41.0 PPM

I took sample at 1515 on sidewall
and and the Bottom 1520

Total 6720 Yd Excavated

We left location at

Rabbit & Steve Glass left at
1700.

Spike & I left after Spike
spread the rest of the soil that
he had room for

JICARILLA APACHE TRIBE
ENVIRONMENTAL PROTECTION OFFICE
P.O. BOX 507
DULCE, NEW MEXICO 87528

STATE OF NEW MEXICO
NATURAL RESOURCE DEPT.
LAND AND WATER ADMINISTRATION

ON-SITE SOIL REMEDIATION REPORT

Operator: WILLIAMS PRODUCTION COMPANY Telephone: 918-561-6250

Address: P.O. BOX 3102, MS 37-4 TULSA, OK. 74101

Facility or Well Name: JICARILLA 92 #9

Location: Unit or Qtr/Qtr Sec G Sec 31 T 27N R 30W County RIO ARriba

Land Type: JICARILLA APACHE RESERVATION

Date Remediation Started: 9/28/98

Date Completed: 11/12/98

Remediation Method: Landfarmed X

Approx. cubic yards 6720

Composted

Other

Depth To Groundwater: (pts.) 0

Distance to an Ephemeral Stream (pts.) 0

Distance to Nearest Lake, Playa, or Watering Pond (pts.) 0

Wellhead Protection Area: (pts.) 0

Distance To Surface Water: (pts.) 0

RANKING SCORE (TOTAL POINTS): 0

Final Closure Sampling:

Sampling Date: 11/12/98 Time: 1220

Sample Results:

Field Headspace (ppm) 970

TPH (ppm) 710 Method 8015

Other BTEX METHOD 8020

31.76 (PPM)

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

DATE 11/19/98 PRINTED NAME ROBERT THOMPSON

SIGNATURE Robert Thompson AND TITLE PROJECT MANAGER

AFTER REVIEW OF THE SOIL REMEDIATION INFORMATION, ON-SITE REMEDIATION IS APPROVED IN ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.

APPROVED: YES X NO (REASON) Cannot be used as backfill.

SIGNED: Karena J. Callado DATE: 11/23/98

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 18-Nov-98

Client:	Philip Environmental	Client Sample Info:	Williams Production Pits
Work Order:	9811042	Client Sample ID:	Jicarilla 92 #9 Landfarm
Lab ID:	9811042-03A	Matrix:	SOIL
Project:	18684 77	Collection Date:	11/12/98 12:20:00 PM
		COC Record:	C2322

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		SW8015				Analyst: HR
T/R Hydrocarbons: C10-C28	110	25		mg/Kg	1	11/18/98
GASOLINE RANGE ORGANICS		SW8015				Analyst: DC
T/R Hydrocarbons: C6-C10	600	18		mg/Kg	100	11/17/98
BTEX		SW8020A				Analyst: DC
Benzene	ND	100		µg/Kg	100	11/15/98
Toluene	8900	200		µg/Kg	100	11/15/98
Ethylbenzene	960	100		µg/Kg	100	11/15/98
m,p-Xylene	17000	200		µg/Kg	100	11/15/98
o-Xylene	4900	100		µg/Kg	100	11/15/98

Qualifiers:

PQL - Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

ND - Not Detected at Practical Quantitation Limit

R - RPD outside accepted recovery limits

J - Analyte detected below Practical Quantitation Limit

E - Value above quantitation range

B - Analyte detected in the associated Method Blank

Surr: - Surrogate

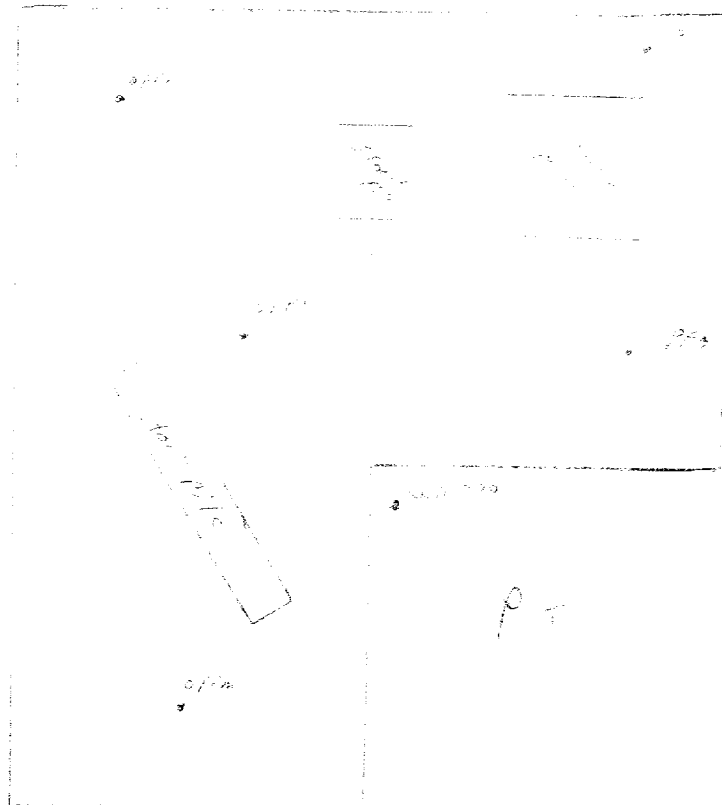
Chain of Custody Record

(505) 326-2262 Phone
(505) 326-2388 FAX

COC Serial No. C 2322

E-176 4/95

JIC 92 #9 6500 77
 Arrived took ~~soil~~ P.d Reading on this
 Land Farm PSD Reading were 0 ppm
 Land Farm is very muddy ~~1220~~
 The Heated Reading was 970 ppm
 I also took a composite of the Stockpile
 of contaminated soil it was 2997 ppm I know
 up this is 95 High 40 our PSD goes



OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 21-Dec-98

Client:	Philip Environmental	Client Sample Info:	Williams Production Pits
Work Order:	9812009	Client Sample ID:	Jicarilla 92#9
Lab ID:	9812009-02A	Matrix:	AQUEOUS
Project:	18684 5000/6500 .77	Collection Date:	12/3/98 3:40:00 PM
		COC Record:	C2311

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS		SW8015				Analyst: HR
T/R Hydrocarbons: C6-C10	330	180		µg/L	1	12/17/98
BTEX		SW8021B				Analyst: HR
Benzene	1.1	1		µg/L	1	12/10/98
Toluene	2.3	1		µg/L	1	12/10/98
Ethylbenzene	8.6	1		µg/L	1	12/10/98
m,p-Xylene	5.6	2		µg/L	1	12/10/98
o-Xylene	ND	1		µg/L	1	12/10/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte Detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

Chain of Custody Record

(505) 326-2262 Phone
(505) 326-2388 FAX

COC Serial No. C 2311.

Relinquished by:

Received By:

Received By:		Received By:	
Signature	Date	Signature	Date
<i>[Signature]</i>	11/11/11	<i>[Signature]</i>	11/11/11

Samples Iced: ☐ Yes ☐ No		Carrier:	Airbill No.
Preservatives (ONLY for Water Samples)			
☐ Cyanide	Sodium hydroxide (NaOH)	Shipping and Lab Notes:	
☐ Volatile Organic Analysis	Hydrochloric acid (HCl)		
☐ Metals	Nitric acid (HNO ₃)		
☐ TPH (418.1)	Sulfuric acid (H ₂ SO ₄)		
☐ Other (Specify)			
☐ Other (Specify)			