3R - 91

REPORTS

DATE:

Sept. 30, 1993

GROUNDWATER ASSESSMENT FOR THREE PRODUCTION TANK BATTERIES
SAN JUAN BASIN PRODUCTION AREA
MIDLAND DIVISION
CONOCO, INC.

Submitted to:

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September 30, 1993

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A. Introduction

In closing impoundments on state and fee lands identified in Conoco's San Juan Basin Pit Closure Plan using procedures described in guidelines issued by the New Mexico Energy, Minerals and Resources Oil Conservation Division Environmental Bureau (NMOCD), preliminary site assessments were performed. When using the ranking criteria of the guidelines, three impoundments required further assessment of oil and gas production operation impact upon localized groundwater. These further assessments were conducted by Conoco's Environmental Services Division (EvSD) with laboratory analysis performed by EvSD's compliance laboratory using EPA protocol analysis. Assessments were performed on impoundments at the following sites located in San Juan County New Mexico.

- Nye Com #1E Tank Drip Pit
- Salmon #1 Line Drip Pit
- Shepard and Kelsey #1 Dehydrator Pit

These assessments were performed on August 24, 25 and 26, 1993 by Conoco EvSD personnel Joel Wilson and Michael Boor.

B. Assessment Plan

The assessment for each site was to be performed by installing three small diameter monitoring wells at each site. One well was to be installed hydrologically downgradient from the surface impoundment with two wells installed upgradient. Each well was to be sampled using appropriate sampling methods and protocols for the following parameters.

- BTEX
- PAH (semivolatiles)
- Specific Conductance
- pH
- Temperature
- TDS

All samples were to be field screened for volatile organic compounds (field headspace analysis) using an Organic Vapor Meter (OVM). If the reading for any well was greater than 100 ppm, another well would be installed approximately 100 feet downgradient and sampled.

Following well installation a survey of the site was to be performed to horizontally locate the wells and to determine the hydraulic gradient.

Please refer to Appendix A for the complete workplan.

C. Well Installation and Sampling

All wells were installed to a depth of about three feet below the water table using a power auger or hand auger as needed. A 0.010" slotted screened PVC pipe was installed at a depth of about three feet below the water table to about three feet above the water table. Unscreened PVC casing was installed to the surface above the screened pipe. A one foot bentonite seal was placed at the surface to prevent surface water from entering the well bore. Colorado Environmental Spec 30 sand was used as the completion material to fill the annulus from the well total depth to the surface bentonite seal. After all materials were installed in each well, each bentonite seal was hydrated. All augering equipment was cleaned after the installation of each well. Construction logs for each well are detailed in Appendix B. Photographs of each well installation are included in Appendix C.

C.1. Nye Com #1E

Three wells were installed at the Nye Com #1E.

Please refer to Figure 1 and Appendices B and D for the site plot-plan, hydraulic gradient calculations and well construction logs.

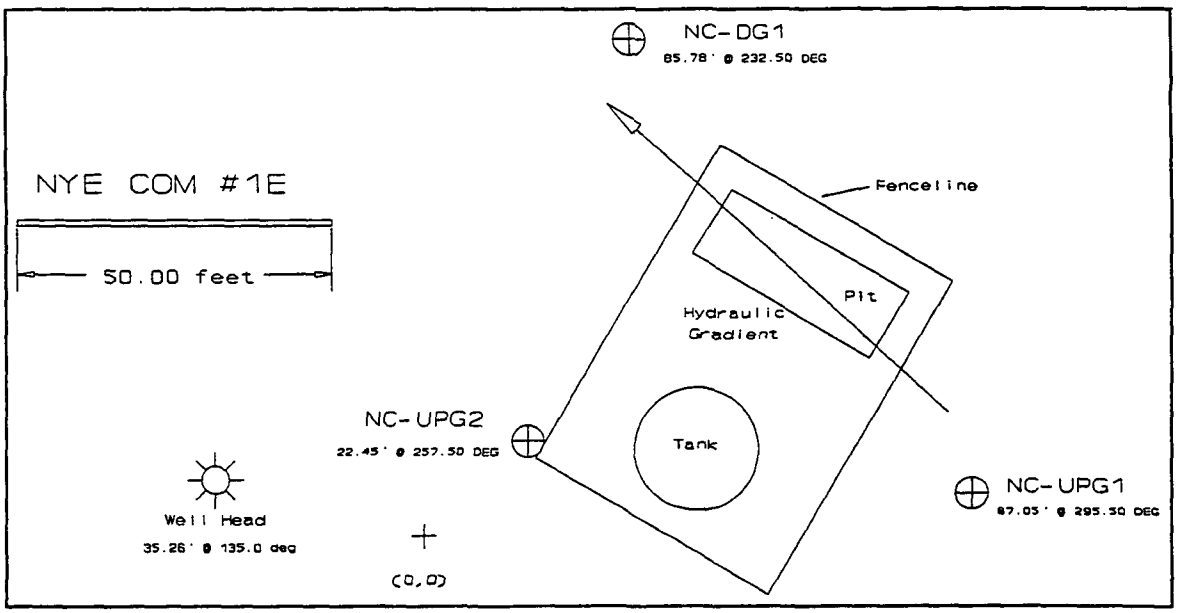


Figure 1 Nye Com #1E

The following table lists the surveyed water level data of this site.

Table 1 Survey Data - Nye Com #1E

Well	Water Level BTOC (feet)	Well Total Depth (feet)	Riser Height above ground (inches)	Elevation of TOC (feet)	Elevation of water table (feet)
NC-UPG1	-5.74	9.87	17	-3.57	-9.31
NC-UPG2	-6.22	9.88	16	-3.96	-10.18
NC-DG1	-6.53	11.60	34	-4.16	-10.69

Note: Elevation datum is height of surveying instrument.
BTOC = Below top of casing.

The hydraulic gradient at this site is 0.015 $^{feet}/_{foot}$.

The following table lists the field gathered data for this site.

Table 2 Field Data - Nye Com #1E

		NC-UPG1	NC-UPG2	NC-DG1
Temperature	(°C)	18.1	20.2	16.2
pH		7.25	7.06	7.00
Specific Conductance	(mmhos/cm)	6390	1660	3680
Total Dissolved Solids	(mg/l)	3190	8330	1838
OVM Reading	(ppm)	ND	ND	ND

Note: Total Dissolved Solids is calculated from the Specific Conductance Measurement.
ND - Not detected.

C.2. Salmon #1

Four wells were installed at this site.

Please refer to the following figure and Appendices B and D for the site plot-plan, hydraulic gradient calculations and well construction logs.

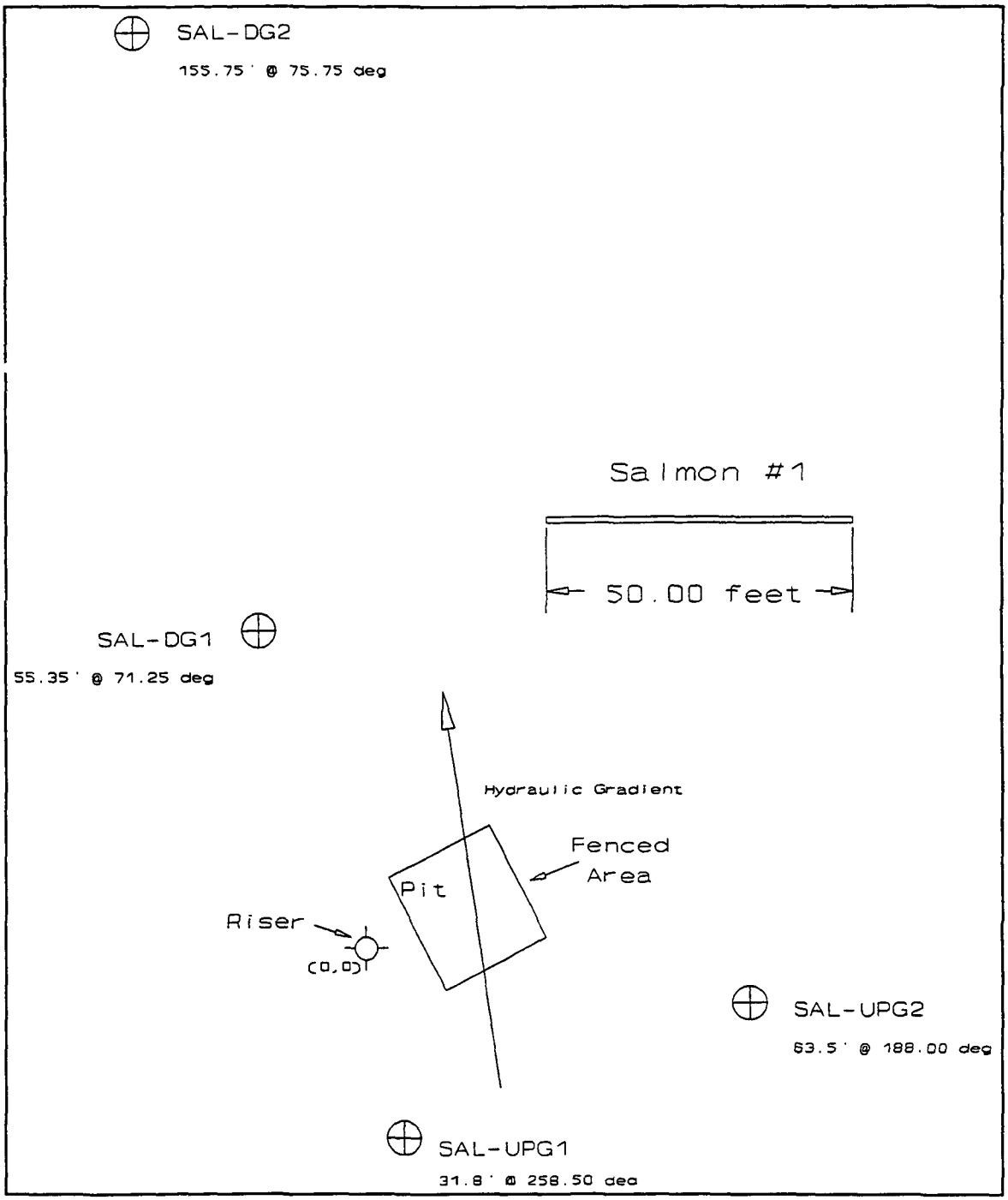


Figure 2 Salmon #1

The OVM reading for well SAL-DG1 was above 100 ppm indicating that another well should be installed farther downgradient. Well SAL-DG2 was installed approximately 100 feet

downgradient from well SAL-DG1. The OVM reading for well SAL-DG2 was less than 100 ppm and an additional downgradient well was not installed.

The following table lists the survey data of this site.

Table 3 Survey Data - Salmon #1

Well	Water Level BTOC (feet)	Well Total Depth (feet)	Riser Height above ground (inches)	Elevation of TOC (feet)	Elevation of water table (feet)
SAL-UPG1	-8.65	10.88	9	-3.98	-12.63
SAL-UPG2	-9.11	11.95	14	-3.63	-12.74
SAL-DG1	-2.62	7.67	6	-10.73	-13.35
SAL-DG2	-5.21	9.34	10	-9.45	-14.66

Note: Elevation datum is height of surveying instrument.
BTOC = Below top of casing.

The hydraulic gradient at this site is 0.009 $^{feet}/_{foot}$.

The following table lists the field gathered data for this site.

Table 4 Field Data - Salmon #1

		SA-UPG1	SA-UPG2	SA-DG1	SA-DG2
Temperature	(°C)	20.1	19.2	20.9	20.4
pH		7.48	7.63	7.84	7.56
Specific Conductance	(mmhos/cm)	1490	1620	1440	1860
Total Dissolved Solids	(mg/l)	7700	824	723	932
OVM Reading	(ppm)	77	ND	172	ND

Note: Total Dissolved Solids is calculated from the Specific Conductance Measurement.
ND- Not detected.

C.3. Shepard and Kelsey #1

Three wells were installed at this site. Please refer to the following figure and Appendices B and D for the site plot-plan, hydraulic gradient calculations and well construction logs.

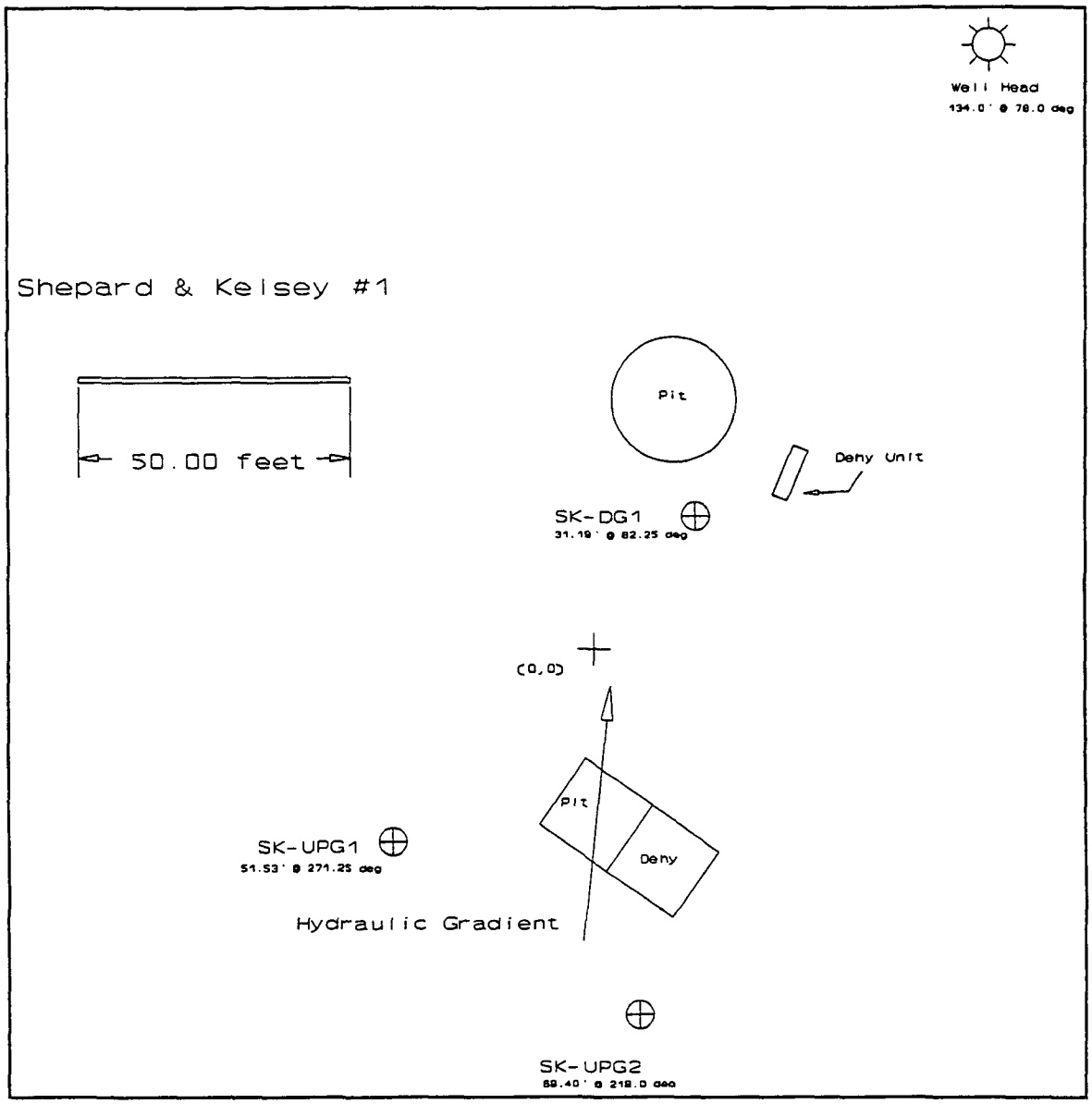


Figure 3 Shepard and Kelsey #1

The following table lists the survey data for this site.

Table 5 Survey Data - Shepard and Kelsey #1

Well	Water Level BTOC (feet)	Well Total Depth (feet)	Riser Height above Ground (inches)	Elevation of TOC (feet)	Elevation of water table (feet)
SK-UPG1	-6.20	10.10	5.5	-3.58	-9.78
SK-UPG2	-5.41	10.10	7.5	-4.05	-9.46
SK-DG1	-6.35	9.05	15.0	-4.38	-10.73

Note: Elevation datum is height of surveying instrument.
BTOC = Below top of casing.

The hydraulic gradient at this site is 0.013 $^{feet}/_{foot}$.

The following table lists the field gathered data for this site.

Table 6 Field Data - Shepard and Kelsey #1

		SK-UPG1	SK-UPG2	SK-DG1
Temperature	(°C)	18.0	23.3	20.7
pH		7.46	7.53	7.53
Specific Conductance	(mmhos/cm)	2110	2290	1960
Total Dissolved Solids	(mg/l)	1098	1162	978
OVM Reading	(ppm)	ND	ND	16.6

Note: Total Dissolved Solids is calculated from the Specific Conductance Measurement.
ND- Not detected.

D. Sample Protocol

All samples were taken after at least ten well volumes of water were purged from each well. The Polynuclear Aromatic Hydrocarbon (PAH or Semi-volatile) samples were taken using a peristaltic pump. All other samples were taken using a stainless steel bailer. All samples were collected, labeled, preserved, and shipped according to EPA guidelines and accompanied by a Chain-of-Custody form. Sampling equipment was washed and triple-rinsed with deionized water between samples. Chain-of-Custody forms are included in Appendix E.

E. Analytical Data

The following table should be used as a reference when referring to the laboratory analytical reports contained in the Analytical Reports Appendix.

Table 7 Sample Cross Reference

Chain-of-Custody Sample ID	Sample Name	Lab ID	Date Sampled
NC-DG1	SJN-NC-DG1	P308088-03	8/26/93
NC-UPG1	SJN-NC-UPG1	P308088-01	8/26/93
NC-UPG2	SJN-NC-UPG2	P308088-02	8/26/93
SAL-DG1	SJN-SAL-DG1	P308088-09	8/25/93
SAL-DG2	SJN-SAL-DG2	P308088-10	8/26/93
SAL-UPG1	SJN-SAL-UPG1	P308088-07	8/25/93
SAL-UPG2	SJN-SAL-UPG2	P308088-08	8/25/93
SK-DG1	SJN-SK-DG1	P308088-06	8/25/93
SK-UPG1	SJN-SK-UPG1	P308088-05	8/25/93
SK-UPG2	SJN-SK-UPG2	P308088-04	8/25/93
TRIP BLANK	SJN-TRIP BLANK	P308088-11	8/19/93

Notes: "NC" refers to Nye Com #1E
"SAL" refers to Salmon #1
"SK" refers to Shepard and Kelsey #1

The following table lists the laboratory results for BTEX and TDS.

Table 8 Laboratory Results - BTEX and TDS

Sample #	Benzene mg/l	Toluene mg/l	Eth-Benzene mg/l	p-Xylene mg/l	m-Xylene mg/l	o-Xylene mg/l	Total Xylenes mg/l	TDS mg/l
NC-UPG1	<.003	<.003	<.003	<.003	<.003	<.003	<.009	6496
NC-UPG2	<.003	<.003	<.003	<.003	<.003	<.003	<.009	1330
NC-DG1	<.003	<.003	<.003	<.003	<.003	<.003	<.009	2915
SK-UPG1	.084	.048	.023	.012	.067	.065	.252	1500
SK-UPG2	<.003	.045	.076	<.003	<.003	<.003	<.009	1828
SK-DG1	.160	1.600	.530	1.300	3.600	1.300	6.200	1288
SAL-UPG1	.098	.052	.097	.024	.061	.025	.110	1044
SAL-UPG2	<.003	<.003	<.003	<.003	<.003	<.003	<.009	1340
SAL-DG1	8.300	12.000	<.300	.610	1.700	.660	2.970	1116
SAL-DG2	.100	<.003	<.003	<.003	<.003	<.003	<.009	1344
TRIP BLANK	<.003	<.003	<.003	<.003	<.003	<.003	<.009	<3

Notes: "UPG" designates an upgradient well.
"DG" designates a downgradient well.
BTEX by EPA Method 8020 with preparation Method 5030.
TDS by EPA Method 160.1.
mg/l is equivalent to parts per million.
Total Xylenes is the sum of the concentrations of o-, m- and p-xylene.

All QA/QC analyte spikes and surrogate recoveries were within method specifications for the above analyses.

The following table lists the results of the laboratory analyses of Polynuclear Aromatic Hydrocarbons (PAHs).

Table 9 Laboratory Results - Polynuclear Aromatic Hydrocarbons (PAHs)

Analyte mg/l	NC-DG1	SAL-DG1	SK-DG1
2-Methylnapthalene	<.020	<0.010	<0.010
3-Methylcholanthrene	<.020	<0.010	<0.010
7,12-Dimethlybenz(a)anthracene	<.020	<0.010	<0.010
Acenaphthene	<.020	<0.010	<0.010
Acenaphthylene	<.020	<0.010	<0.010
Anthracene	<.020	<0.010	<0.010
Benzo(a)anthracene	<.020	<0.010	<0.010
Benzo(a)pyrene	<.020	<0.010	<0.010
Benzo(b)fluoranthene	<.020	<0.010	<0.010
Benzo(g,h,i)perylene	<.020	<0.010	<0.010
Benzo(k)fluoranthene	<.020	<0.010	<0.010
Chrysene	<.020	<0.010	<0.010
Dibenz(a,h)anthracene	<.020	<0.010	<0.010
Dibenz(a,j)acridine	<.020	<0.010	<0.010
Fluoranthene	<.020	<0.010	<0.010
Fluorene	<.020	<0.010	<0.010
Indeno (1,2,3-cd) pyrene	<.020	<0.010	<0.010
Naphthalene	<.020	<0.010	<0.010
Phenanthrene	<.020	<0.010	<0.010
Pyrene	<.020	<0.010	<0.010

Note: Samples were extracted using EPA method 3520 and analyzed using Method 8270.

Please note that terphenyl-d14 surrogate recoveries for the samples from wells SAL-DG1 and SK-DG1 were low. The samples were re-extracted and re-analyzed with no changes noted for the re-analysis. This indicates that a matrix interference is present. Please refer to the Analytical Results Appendix for detailed analysis data.

F. Summary

F.1. Nye Com #1E

Well NC-UPG1 was placed upgradient of the surface impoundment and well NC-DG1 was placed downgradient. No impact upon the groundwater by BTEX or PAHs was found at this location.

F.2. Salmon #1

Wells SAL-UPG1 and SAL-DG1 were about 20° from the hydraulic gradient line running directly through the surface impoundment. Well SAL-DG2 was placed downgradient. SAL-UPG2 showed no evidence of groundwater impact. Groundwater samples from well SAL-DG1 contained 8.300 and 12.000 mg/l of benzene and toluene respectively and contained 2.970 mg/l of total xylene. SAL-DG2 samples contained 0.100 mg/l of benzene. This indicates that the extent of the benzene plume is beyond the extreme downgradient well, but at a very low level.

No PAHs were found to be present at this site.

F.3. Shepard and Kelsey #1

Well SK-UPG2 was placed upgradient of the surface impoundment and well SK-DG1 was placed downgradient. SK-DG1 samples contained 0.160 and 1.600 mg/l benzene and toluene, respectively. Total xylenes for samples from well SK-DG1 at this site were 6.200 mg/l.

No PAHs were found to be present at this site.

Appendix A
Workplan

SAN JUAN BASIN
GROUNDWATER INVESTIGATION
WORKPLAN

INTRODUCTION

This workplan outlines the field and analytical procedures to assess groundwater quality at three pits in the San Juan Basin area. The following are the pits slated for investigation and subsequent closure:

NYC Com 1E -- Tank Drip Pit (TDP)
Salom 1 -- Line Drip Pit (LDP)
Shepard & Kelsey 1 -- Dehydrator Pit (DHP)

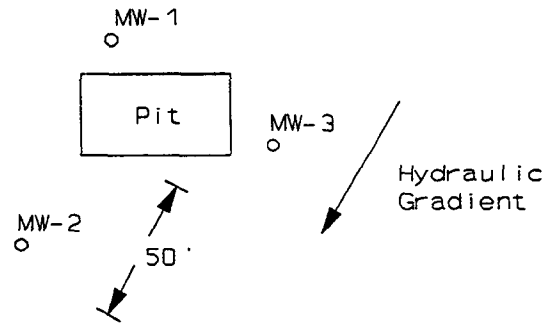
As part of the closure plan, a site assessment was conducted in early June 1993. The results of this investigation include further groundwater quality assessment around the three pits mentioned above. This workplan will describe the methodologies for sampling and analysis of the local groundwater near the pits. Basically, the work will follow the NMOCD Unlined Surface Impoundment Closure Guidelines Sec. III.2.c (Ground Water Sampling).

FIELD WORK

The field work will be conducted by Conoco Environmental Support personnel.

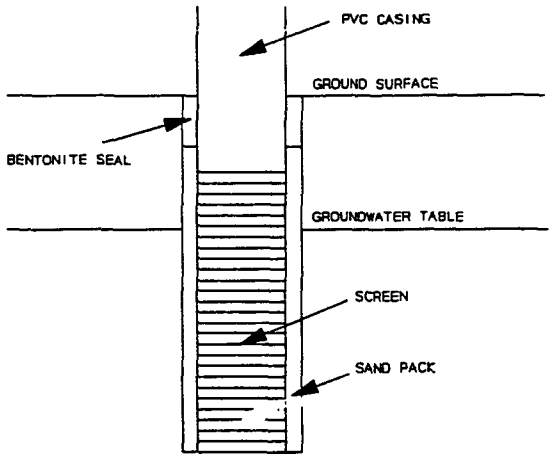
Temporary Monitor Well Installation

Three small diameter PVC monitoring wells will be installed adjacent to each impoundment. One of these will be located hydrologically down-gradient at a distance of not more than 50 feet from the pit boundary. The other two wells will be installed up-gradient near the pit boundary. The following diagram better describes the layout:



Each well will be installed by hand or power augering a 3- or 4-inch hole to a depth of approximately 3 feet below the water table. A clean one-inch-diameter PVC slotted screen will be placed to a depth of approximately 2-3 feet above the water table. The screen will be connected to a blank one-inch PVC casing.

The remaining annulus will be sand packed with clean sand with a bentonite clay seal near the top. The following illustrates the well construction:



TEMPORARY MONITOR WELL

Certain field conditions may require an alternate method for installing the monitor wells. In this case, a hollow steel rod will be driven to the desired depth. The one-inch PVC well casing and screen will then be inserted inside the steel rod and left in place while retracting the steel rods. The resulting annular space will be sand packed with an upper bentonite clay seal.

SAMPLING AND ANALYSIS

Prior to sampling, each well will be developed by pumping at least ten well volumes and monitoring pH to determine stabilization.

A clean teflon or stainless steel bailer will be used to collect samples for the following analysis:

8020	BTEX	2 ml - 40 ml
8270	PAH (Semivolatiles)	2 L - 1 L
--	TDS	125 mL
--	Specific Conductance	Field
--	pH	Field
--	Temp	Field

A peristaltic pump may be used to collect the larger volume samples. The BTEX sample will be collected with a bailer. Samples for PAHs will be collected only from down-gradient wells.

All samples will be collected, labelled, preserved, and shipped according to EPA guidelines and protocols. A Chain-of-Custody form will accompany each shipment. Sampling equipment will be triple-rinsed using deionized water.

PLUME DELINEATION

All samples will be screened (field headspace) for volatile organics using an Organic Vapor Meter (OVM) calibrated to isobutylene. Locations of samples with OVM readings greater than 100 ppm will be extended approximately 100 feet down-gradient and reassessed by installing another temporary monitor well and subsequent sampling.

SURVEYING

All monitor well locating will be surveyed to log both horizontal and vertical positions of the well casing. A fixed point will be used to reference the location of each well and to provide an elevation benchmark.

Water levels will be measured using a conductivity sounding probe and referenced to the top of the casing. This data may allow a more accurate determination of the local hydraulic gradient.

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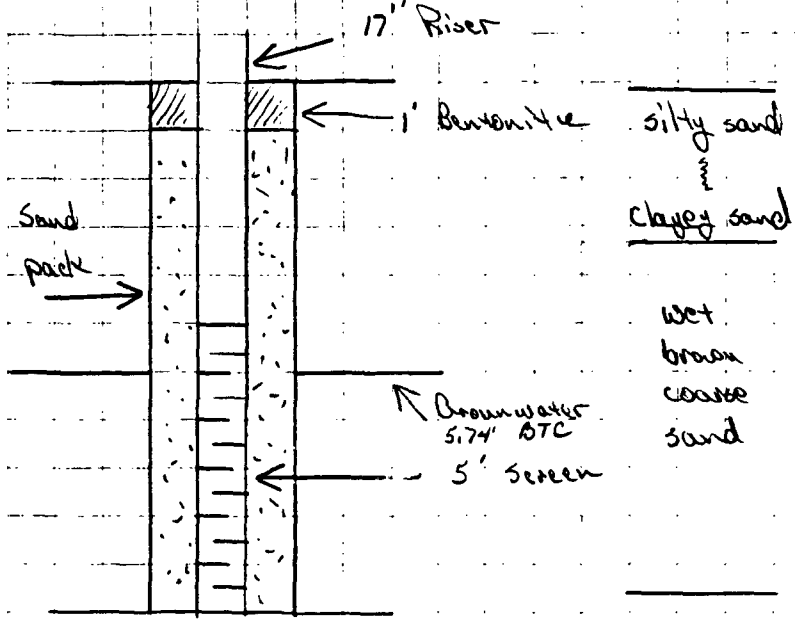
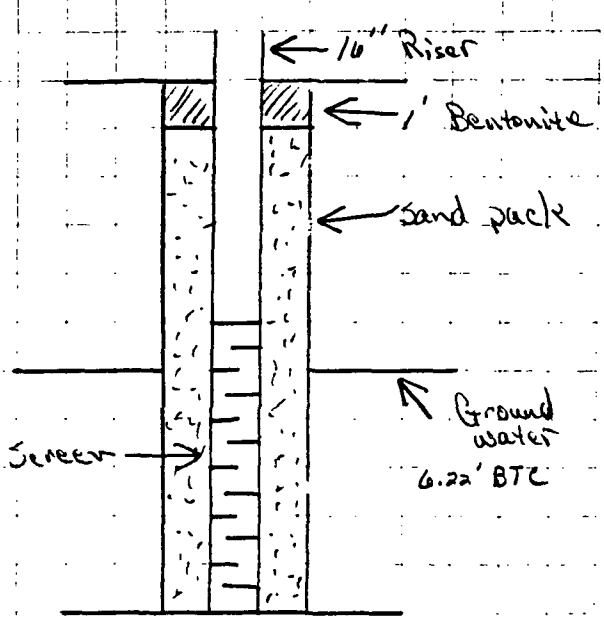
Appendix B
Well Construction Logs
Site Plot Plans

NC-UPG1



T.D. = 9.80' BTC

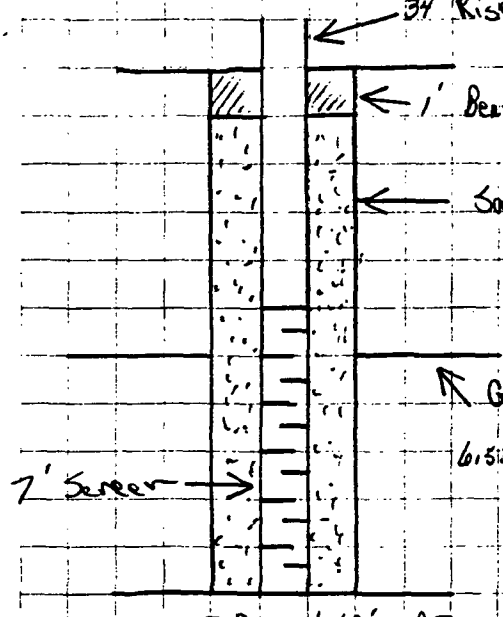
NC-UPG2



T.D. = 9.88' BTC

Material = 1" PVC w/ .010" slotted screen
Sand pack = Co. Env. Spec 30 sand

NC-DG1



T.D. = 11.60' BTC

Field Data

	NC-UPG1	NC-UPG2	NC-DG1	
Temp	18.1	20.2	16.2	°C
pH	7.25	7.06	7.00	
S.C.	6390	1660	3680	mS/cm
TDS	3,119	0,833	1,838	g/L
OVM	ND	ND	ND	ppm

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Date 9-10-93
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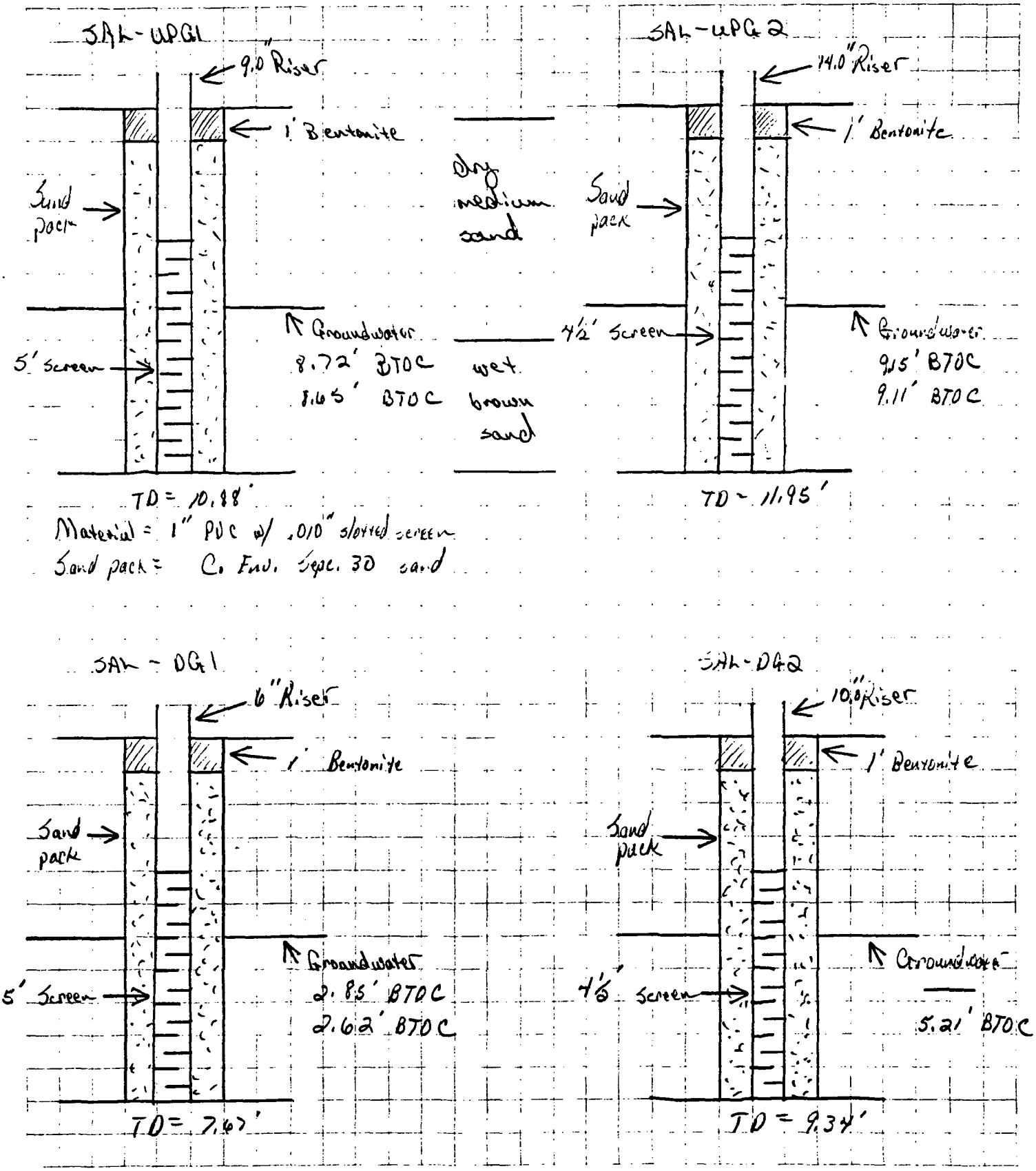
Conoco Inc.
Calculation Sheet

Title San Juan GW
NyE Co #1E

Job No.
Field San Juan
State N.M.



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Date 9-10-93
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Conoco Inc.
Calculation Sheet

Title San Juan 6'10 Salmon #1

Job No.
Field San Juan
State NM

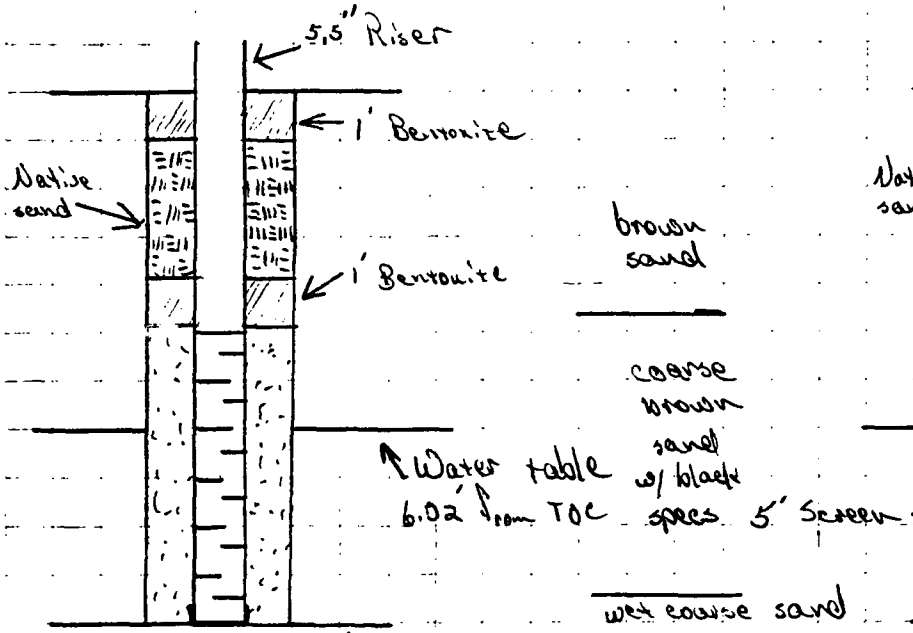
13-231-PB

Salmon # 1

Field Data

	SAL-UPG1	SAL-UPG2	SAL-DG1	SAL-DG-2	Units
Temp	20.1	19.2	20.9	20.4	°C
pH	7.48	7.63	7.84	7.56	
S.C.	1490	1620	1440	1860	mS/cm
TDS	0.770	0.824	0.723	0.932	g/L
OVM	77	ND	172	ND	ppm

SK-UPG1

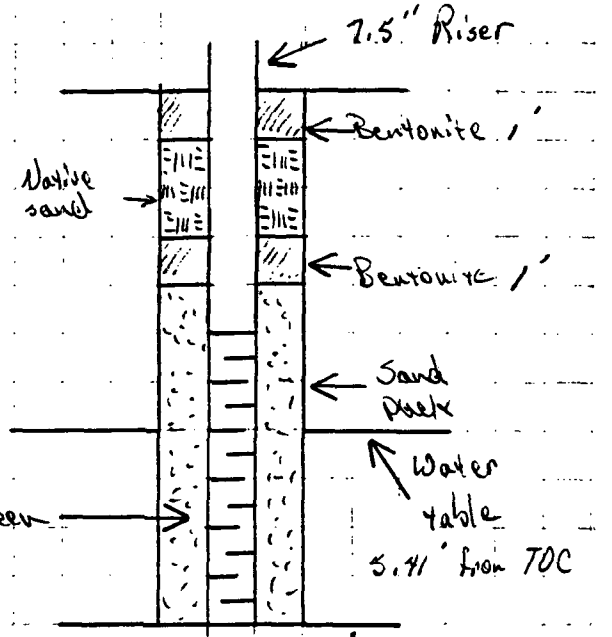


T.D. = 10.10' BTC

Material = 1" PVC w/ .010" slotted screen

Sand pack = Colorado Env. Spec 30 sand

SK-UPG2

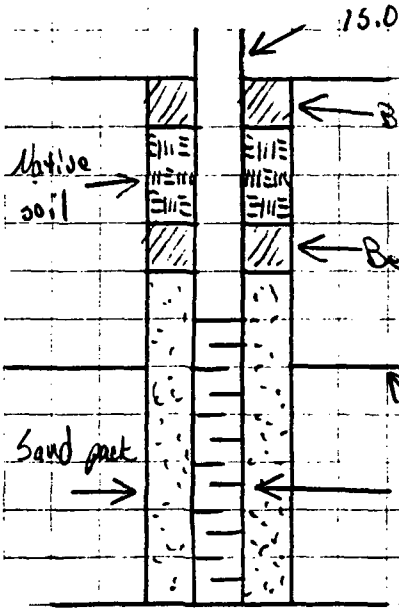


TD = 10.10' BTC

Screen length = 5'

Material = 1" PVC w/ .010" slotted screen

SK-DG1



TD = 9.05' BTC

Field data

	SK-UPG1	SK-UPG2	SK-DG1	Units
Temp	19.0	23.3	20.7	°C
pH	7.46	7.53	7.53	
S.C.	2110	2290	1960	mS/cm
TDS	1098	1,162	978	g/L
DO	WD	WD	16.6	ppm

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Date 9-10-93

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Conoco Inc.
Calculation Sheet

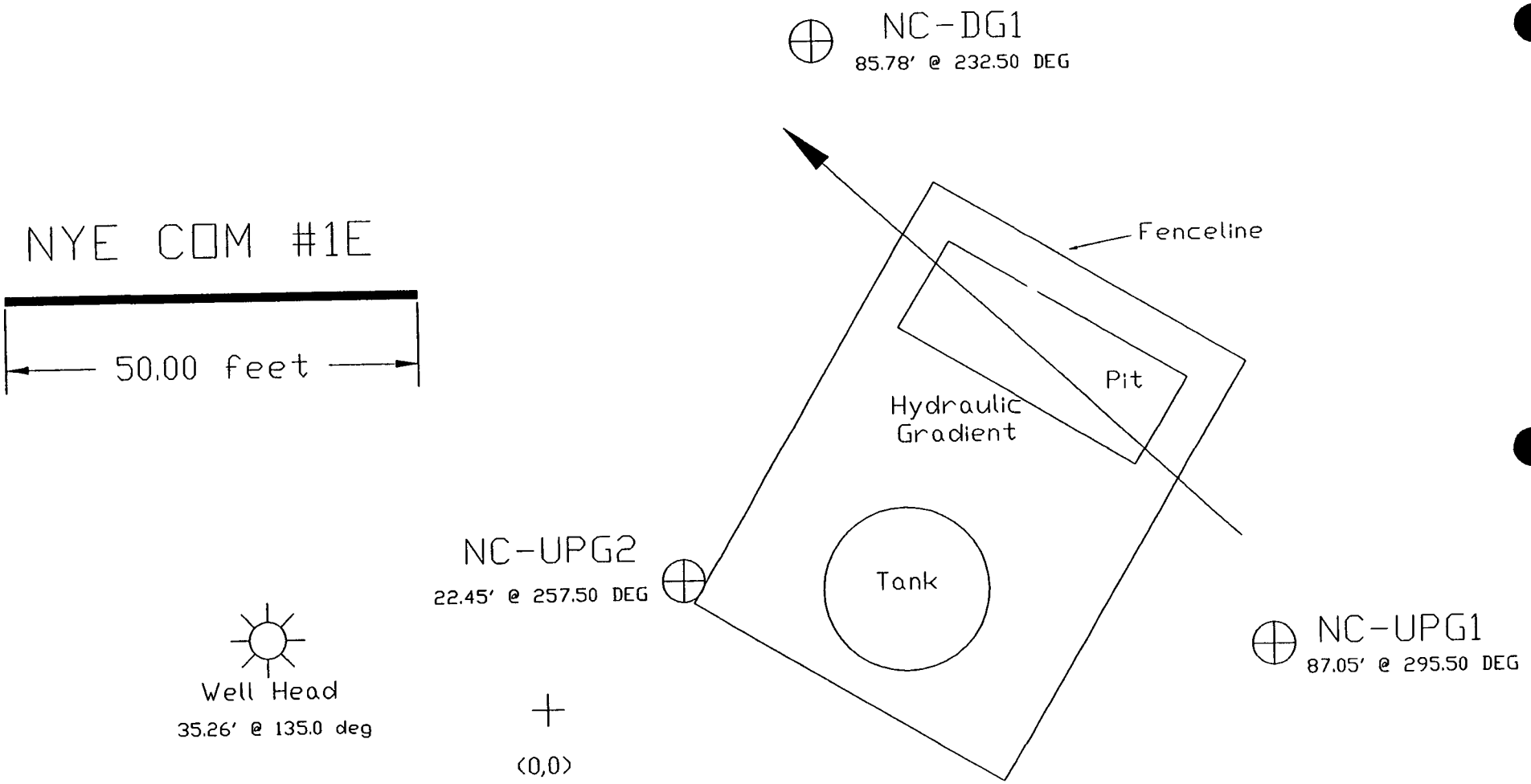
Title San Juan GW
Shepard & Kelsey #1

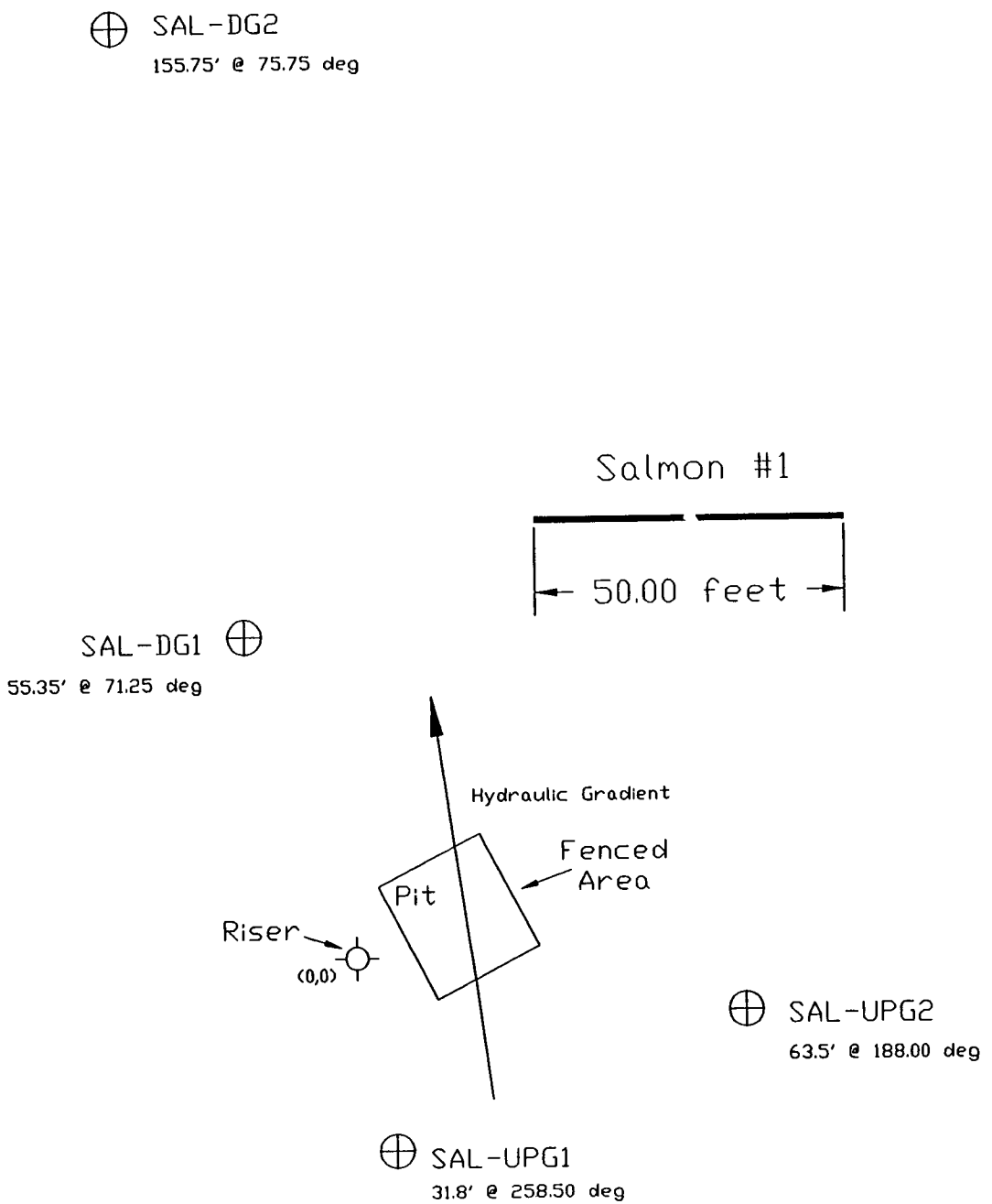
Job No.

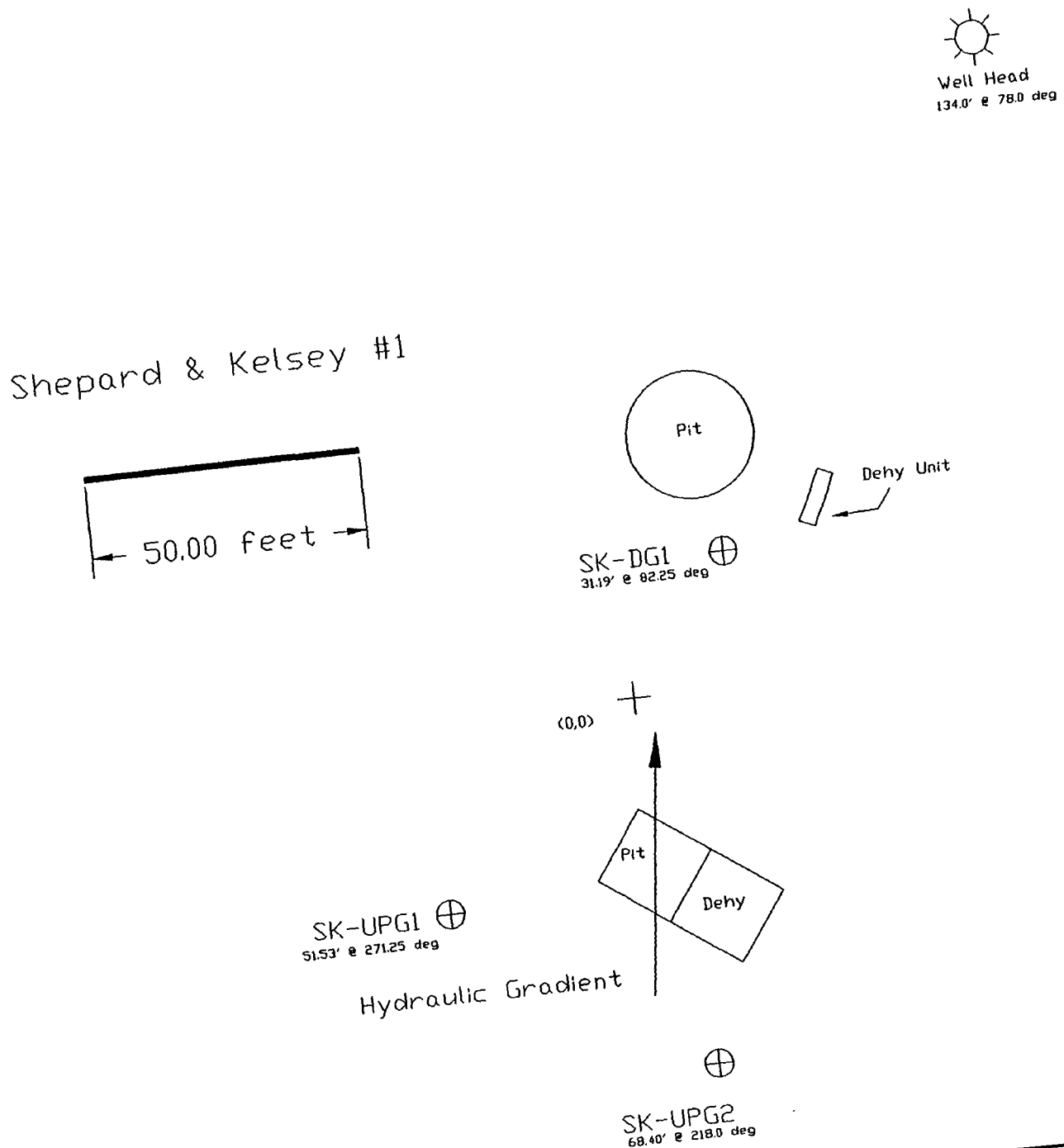
Field San Juan

State N.M.

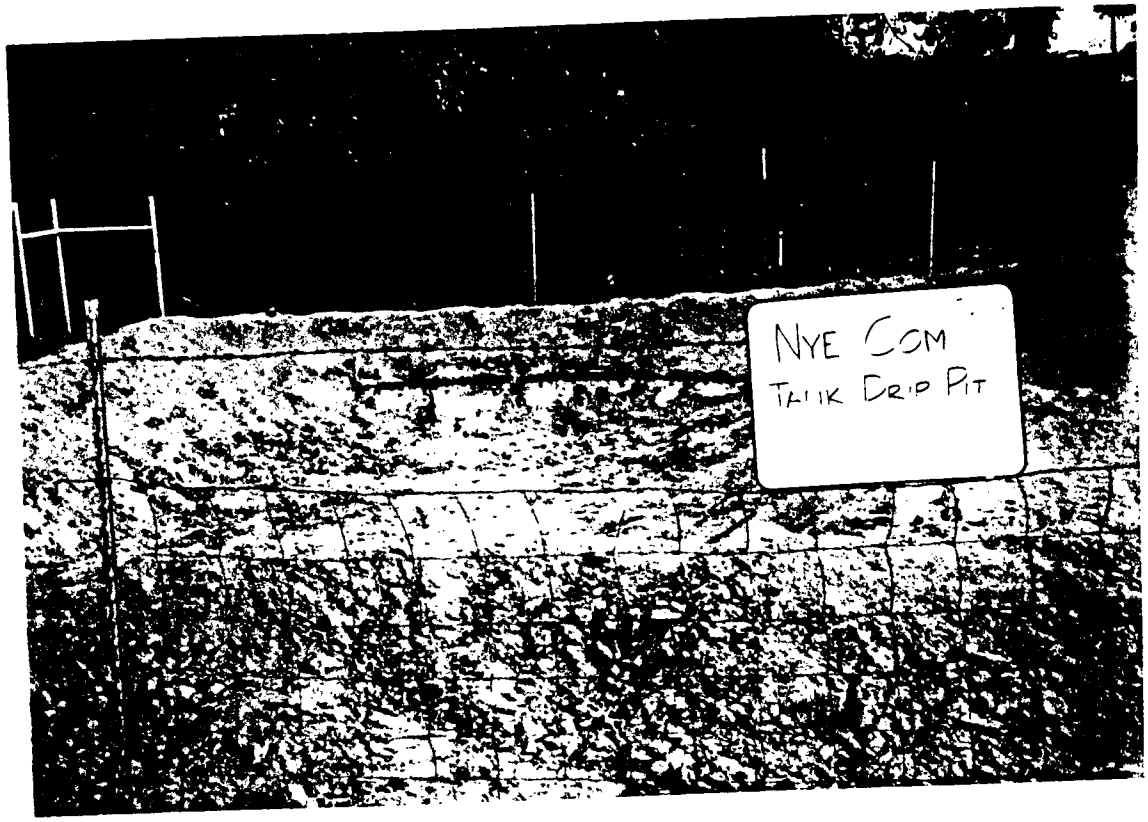
13-231-PB


NC-DG1
85.78' @ 232.50 DEG
NYE COM #1E
50.00 feet
Fenceline
Pit
Hydraulic
Gradient
NC-UPG2
22.45' @ 257.50 DEG
Tank
NC-UPG1
87.05' @ 295.50 DEG
Well Head
35.26' @ 135.0 deg
(0,0)


SAL-DG2
155.75' @ 75.75 deg
Salmon #1
50.00 feet
SAL-DG1
55.35' @ 71.25 deg
Hydraulic Gradient
Fenced
Area
Pit
Riser
(0,0)
SAL-UPG2
63.5' @ 188.00 deg
SAL-UPG1
31.8' @ 258.50 deg


Well Head
134.0' @ 78.0 deg
Shepard & Kelsey #1
50.00 feet
Pit
Dehy Unit
SK-DG1
31.19' @ 82.25 deg
(0,0)
Pit
Dehy
SK-UPG1
51.53' @ 271.25 deg
Hydraulic Gradient
SK-UPG2
68.40' @ 218.0 deg

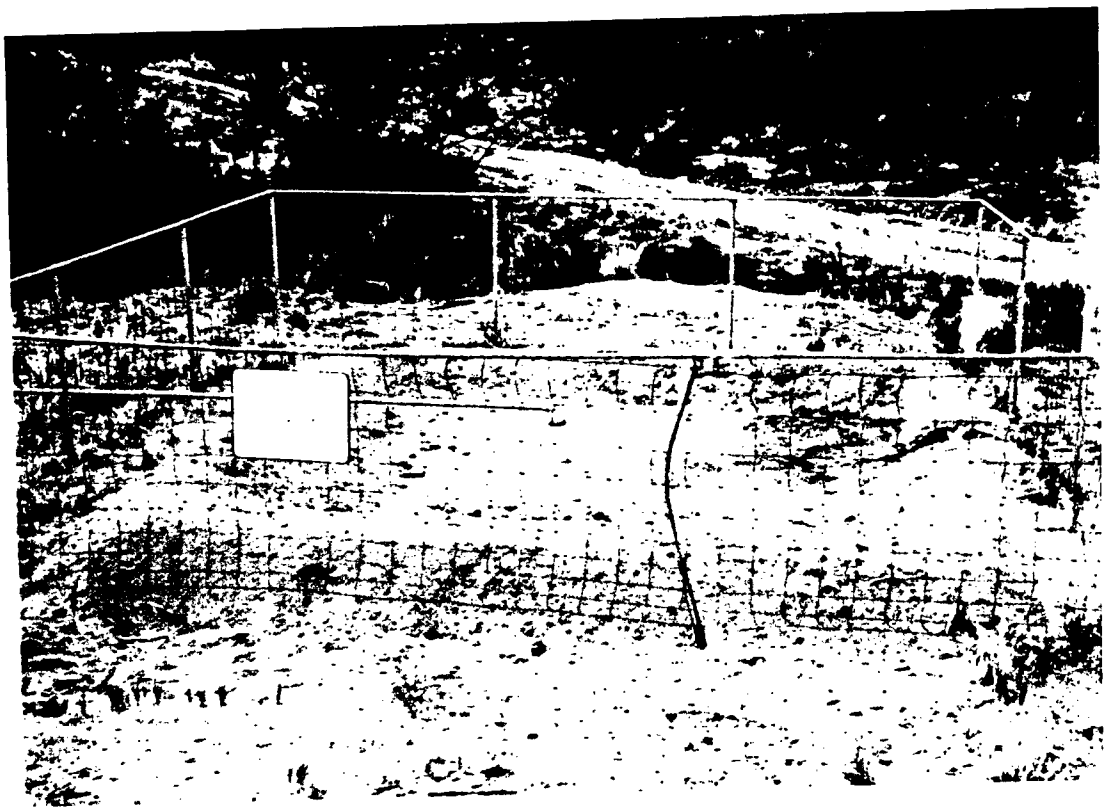
Appendix C
Photographs

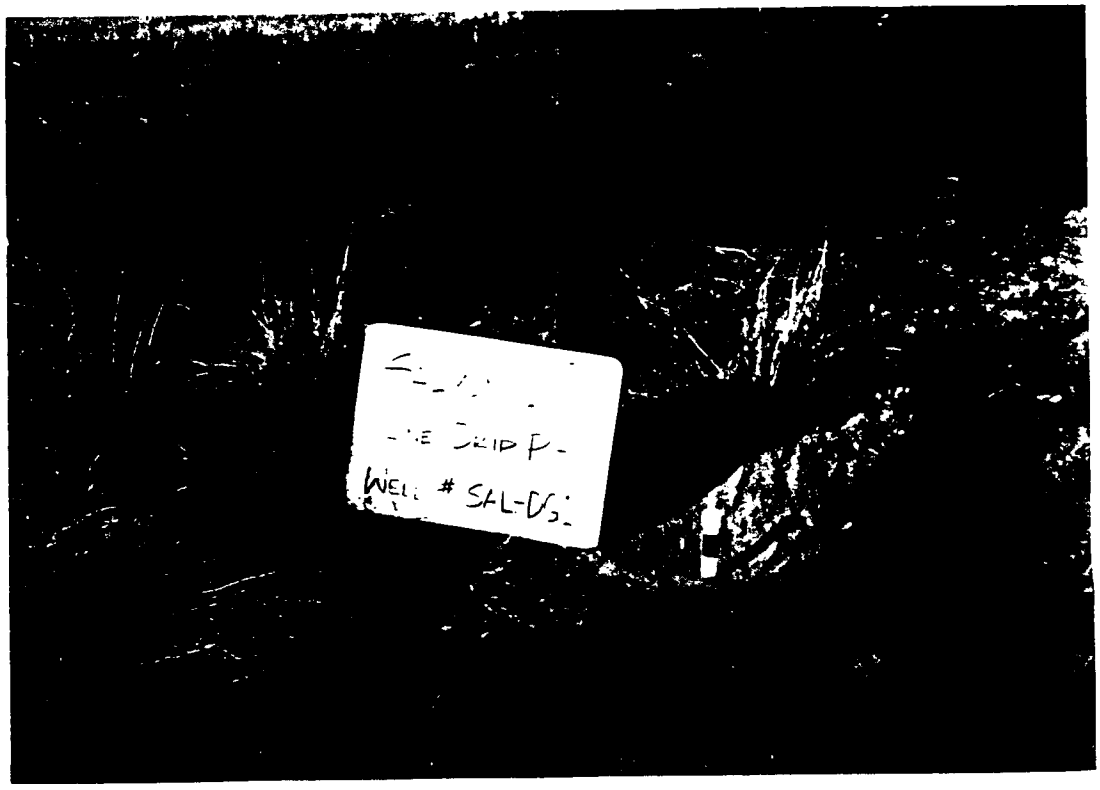

NYE COM
TANK DRIP PIT

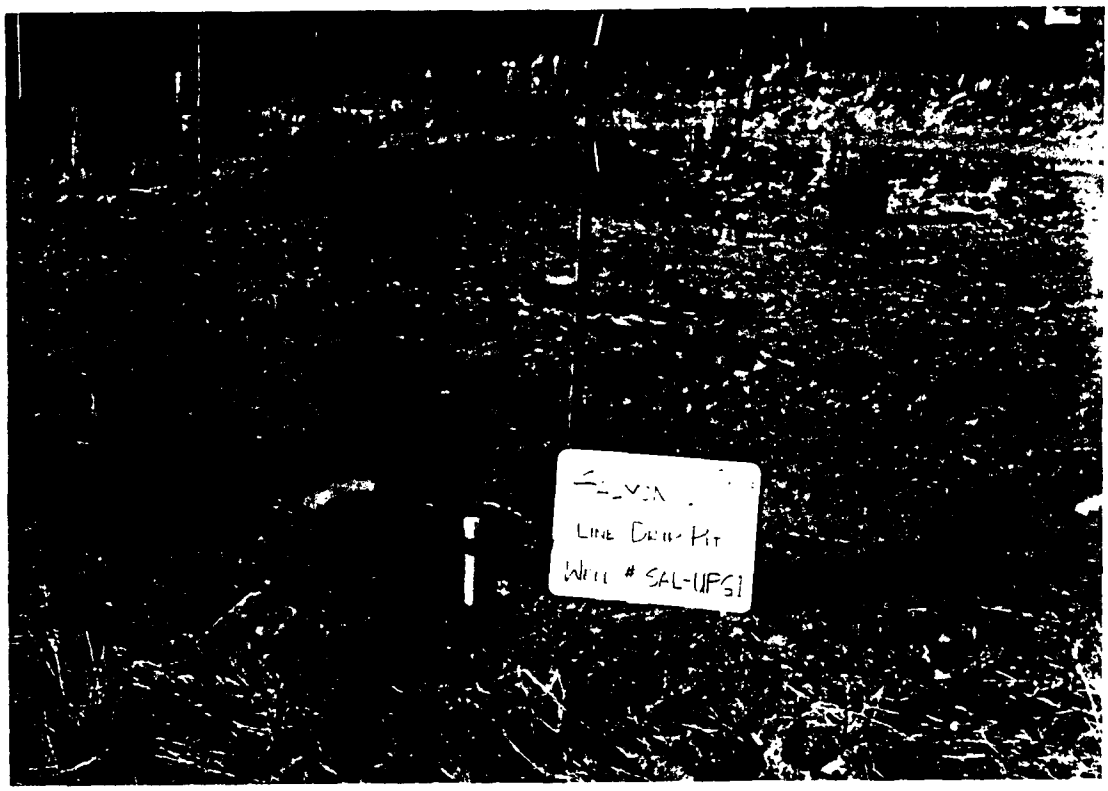

NYE COM


NYE COM
TANK DRIP PIT
WELL # NC-UPG1

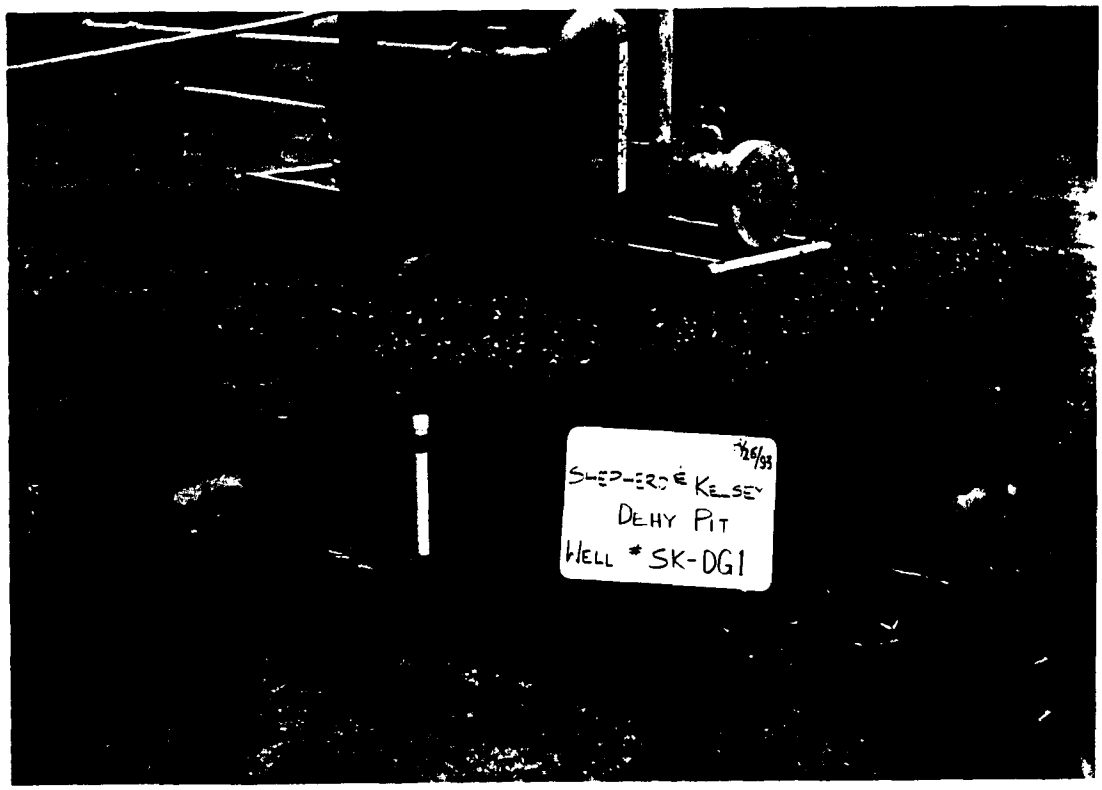

NYE COM
WELL # NC-UPG2

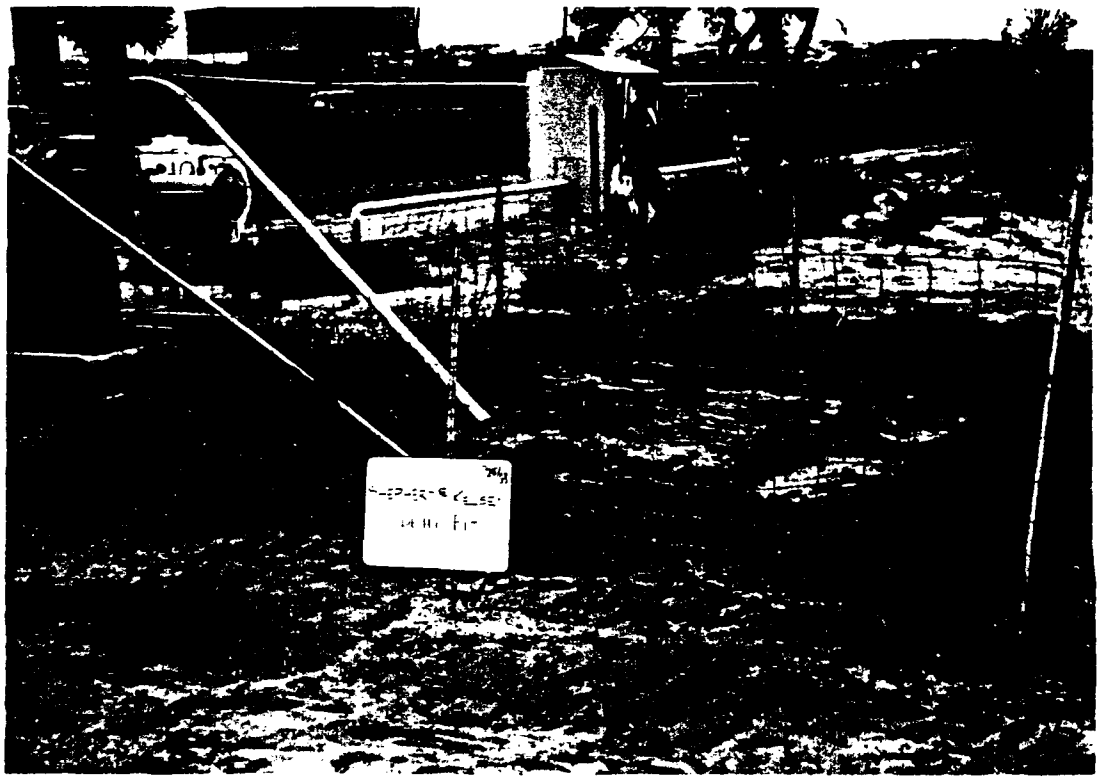



WELL # SAL-D5


Line Drip Kit
Well # SAL-UPS1


Line Drip Kit
Well # SAL-UPS2


SHEPHERD & KELSEY
DEHY PIT
WELL # SK-DG1




1/26/93
SHEPHERD & KELSEY
DEHY. PIT
WELL # SK-UPG 2


1/26/93
SHEPHERD & KELSEY
DEHY. PIT
WELL # SK-UPG 1

Appendix D
Hydraulic Gradient Calculations

A= 85 88 $\frac{85}{88} \cdot 10 = 9.66$ 20 , 30 , 40 , 50 , 60 , 70 , 80
19.32, 28.98, 38.64, 48.30, 57.95, 67.61, 77.27

B= 79 51 $\frac{79}{51} \cdot 12 = 3.10$ 12 22 32 42 52 62 72
18.59 34.08 49.57 65.06

C= 109 139 $\frac{109}{139} \cdot 10 = 7.84$ 20 30 40 50 60 70 80 90 100 110 120 130 140
15.68 23.53 31.37 39.21 47.05 ~~54.89~~ ~~62.73~~ 70.58 78.42 86.26 94.10 101.94 109.78
54.89 62.73 70.58 78.84 86.26 94.10 101.94

Gradient

$\frac{59.3}{50'} = \frac{38.9}{X}$ $\frac{.5}{32.80} = .015 \frac{ft}{ft}$

$X = 32.80$

NYE COM #1E

50.00 feet

$\frac{50'}{55.9} = \frac{X}{38.75}$

$X = 34.67'$

Gradient =

$\frac{.50'}{34.67'} = .014 \frac{ft}{ft}$

Well Head
35.26' @ 135.0 deg
EL. 0' TOCF

(0,0)

NC-DG1 El TOC -4.16
GW -10.69
85.78' @ 232.50 DEG
-10.5
Fenceline
B
-10.0
PIT
C
NC-UPG2
22.45' @ 257.50 DEG
EL TOC -3.96
GW -10.18
Tank
-9.50
A
NC-UPG1 El TOC -3.64'
GW -9.30'
87.05' @ 295.50 DEG

NYE.DWG

	Length	Elev. @ 100				
A =	77	72	$\frac{7}{72} \cdot 77 = 7.5$	$\frac{27}{72} \cdot 77 = 28.9$	$\frac{57}{72} \cdot 77 = 61.0$	$\frac{67}{72} \cdot 77 = 50.3$
			$\frac{17}{72} \cdot 77 = 18.2$	$\frac{37}{72} \cdot 77 = 39.6$	$\frac{67}{72} \cdot 77 = 71.7$	
B =	89	61	$\frac{9}{61} \cdot 89 = 8.8$	$\frac{26}{61} \cdot 89 = 37.9$	$\frac{46}{61} \cdot 89 = 67.1$	
			$\frac{16}{61} \cdot 89 = 23.3$	$\frac{36}{61} \cdot 89 = 52.5$	$\frac{56}{61} \cdot 89 = 81.7$	
C =	54	11	$\frac{7}{11} \cdot 54 = 34.4$			

El -9.45' TOC
WL -5.21'
-14.66

SAL-DG2
155.75' @ 75.75 deg

$\frac{31}{30} = \frac{44.2}{50}$

$X = 35.07'$

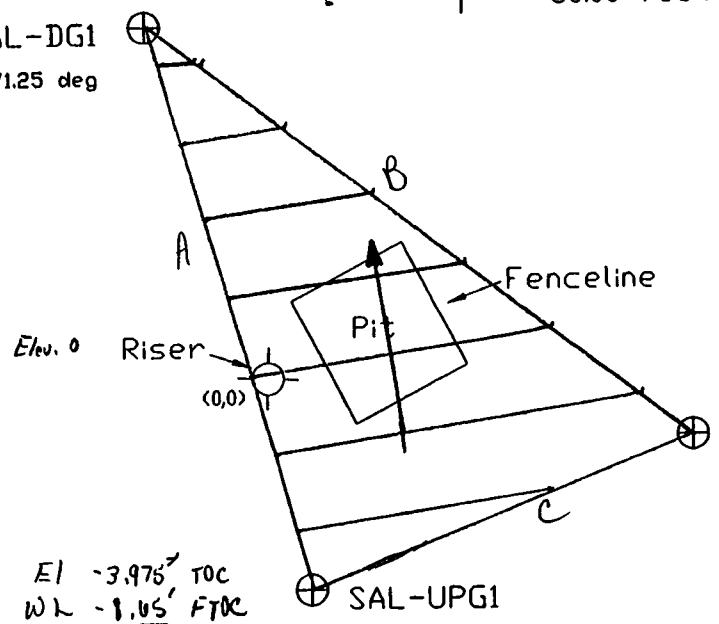
$\frac{30'}{35.07} = .009$ ft/ft

El -10.73' TOC
WL -2.02' FTOC
-13.35

SAL-DG1
55.35' @ 71.25 deg

Salmon #1

50.00 feet



SAL-UPG2
63.5' @ 188.00 deg

El -3.625' TOC
WL -9.11' FTOC
-12.74

El -3.975' TOC
WL -8.65' FTOC
-12.63

SAL-UPG1
31.8' @ 258.50 deg

SALMON.DWG

Gradient

$\frac{12.6}{50'} = \frac{31.5}{X}$ $\quad \frac{.50'}{32.32'} = .013 \frac{ft}{ft}$

$X = 37.32'$

Well Head
134.0' @ 78.0 deg
Elv. 0.0 TOC=

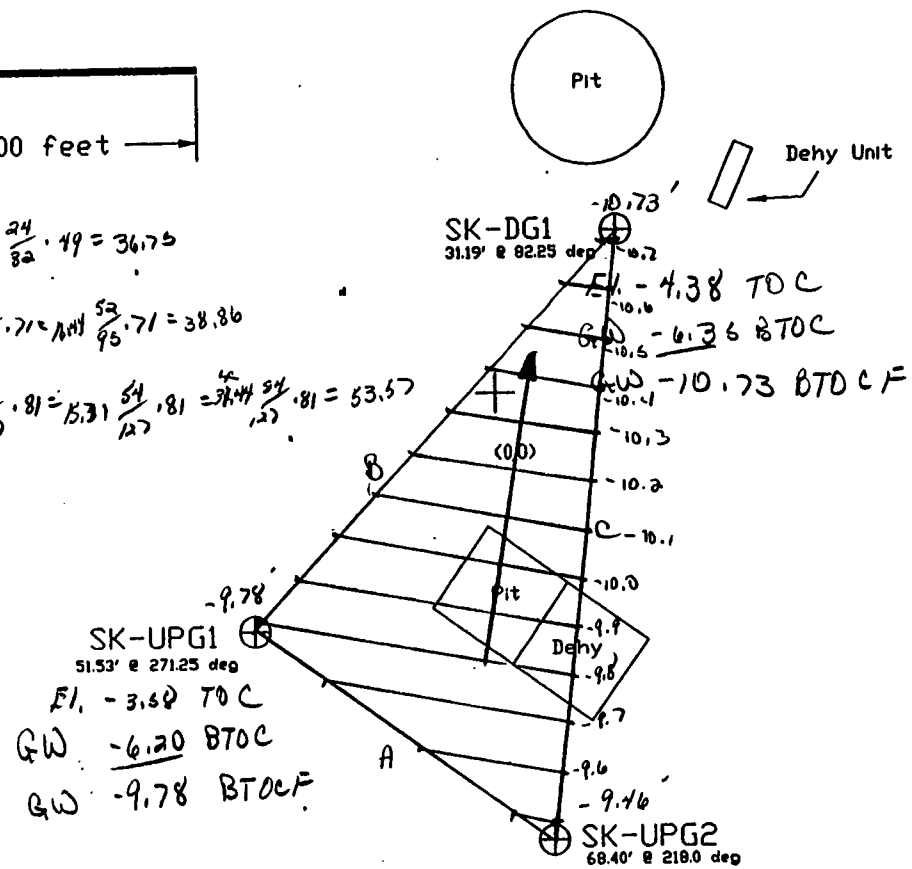
Shepard & Kelsey #1

50.00 feet

A= 49 $\quad 78-46=32 \quad \frac{4}{32} \cdot 49 = 6.13 \quad \frac{14}{32} \cdot 49 = 21.44 \quad \frac{24}{32} \cdot 49 = 36.75$

B=71 $\quad \frac{10.73}{.16} \quad 95 \quad \frac{2}{95} \cdot 71 = 1.49 \quad \frac{12}{95} \cdot 71 = 8.97 \quad \frac{22}{95} \cdot 71 = 16.44 \quad \frac{53}{95} \cdot 71 = 38.86$

C=81 $\quad 127 \quad \frac{4}{127} \cdot 81 = 2.55 \quad \frac{14}{127} \cdot 81 = 8.93 \quad \frac{24}{127} \cdot 81 = 15.31 \quad \frac{54}{127} \cdot 81 = 34.44 \quad \frac{54}{127} \cdot 81 = 53.57$



El. -4.38 TOC
GW -6.36 BTOC
GW -10.73 BTOC=

SK-UPG1
El. -3.68 TOC
GW -6.20 BTOC
GW -9.78 BTOC=

SK-UPG2
El. -4.05 TOC
GW -5.41 BTOC
GW -9.46 BTOC=

Appendix E
Chain-of-Custody Forms

CONOCO

Environmental Sample Chain of Custody and Log
Research and Engineering

N 22205

Project Number

Type or Print Data

Facility Name NYE COM 1E LEASE	**Telephone Number** (NO) NUMBER	**Transporter Name** M.J. BOOR	**Telephone Number** ( ) X-6646
Facility Address SAN JUAN BASIN, NM OFF HWY 64		**Transporter Address** FYSD	
Facility Supervisor JOHN COY, CONOCO EPNA, ETN 827-5813		**Method of Shipping** HAND DELIVER	
Process Producing Sample TEMP. WELLS	**Special Shipping Instructions**		
Employee(s) Sampling JF WILSON & MJ BOOR	**Remarks**		
Other Employee(s) Handling			

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	No.	Analysis Req. ▶ Preservative	BTEX	TDS	PNA's 8270
NC-UPG1	8/26/93	0905	WATER	80 ml	40ml VOA	2	YES, ACID	X		
NC-UPG1		0905		500 ml	DK-GL	1	NO		X	
NC-UPG2		0920		80 ml	40ml VOA	2	YES, ACID	X		
NC-UPG2		0920		500ml	DK-GL	1	NO		X	
NC-DG1		0935		80ml	40ml VOA	2	YES, ACID	X		
NC-DG1		0935		500ml	DK GL	1	NO		X	
NC-DG1		0935		2L	1LDKGL	2	NO			X

Signatures

	Date/Time		Date/Time	
Bottles Relinquished by G. Englekirk by JFW	8/20/93 1330	Bottles Received by Joel F. Wilson	8/25/93 0800	Condition of Samples Upon Arrival at Final Destination
Relinquished by Joel F. Wilson	8/26/93 2235	Received by Mike Boor	8-25 93 2235	GOOD
Relinquished by Mike Boor	8-30 93 08:20	Received by	8/30 0420	Signature Date 8/30/93
Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only)
Relinquished by	Date/Time	Received by	Date/Time	4°C
Relinquished by	Date/Time	Received by	Date/Time	Signature Date 8/30/93

Conoco

Environmental Sample Chain of Custody and Log
Research and Engineering

22211

Project Number

Type or Print Data

Facility Name: SALMON 1 PROD. LEASE	Telephone Number: (NO) NUMBER
Facility Address: SAN JUAN BASIN, NM OFF HWY 64	Transporter Name: M.J. BOOR
Facility Supervisor: JOHN COY, CONOCO EPNA, ETN 827-5813	Telephone Number: ( ) X-6646
Process Producing Sample: LINE DRIP PIT FROM GAS WELL	Transporter Address: EVED
Employee(s) Sampling: J.F. WILSON & M.J. BOOR	Method of Shipping: HAND DELIVER
Other Employee(s) Handling	Special Shipping Instructions
	Remarks

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	No.	Analysis Req. ▶ Preservative	BTEX	TDS	PNA's 8270
SAL-UPG1	8/25/93	1540	WATER	80ml	40ml/VOA	2	YES, ACID	X		
SAL-UPG1		1540		500ml	DK-GL	1	NO		X	
SAL-UPG2		1600		80ml	40ml/VOA	2	YES, ACID	X		
SAL-UPG2		1600		500ml	DK-GL	1	NO		X	
SAL-DG1		1640		80ml	40ml/VOA	2	YES, ACID	X		
SAL-DG1		1640		500ml	DK-GL	1	NO		X	
SAL-DG1	↓	1640	↓	1L	DK-GL	2	NO			X
SAL-DG2	8/26/93	1445	WATER	80ml	40ml/VOA	2	YES, ACID	X		
SAL-DG2	8/26/93	1445	↓	500ml	DK-GL	1	NO		X	

Signatures

Relinquished by	Date/Time	Received by	Date/Time
G. Englekay by JFW	8/20/93 1330		
		Bottles Received by	8/25/93 0800
Relinquished by	8/26/93 2235	Received by	8-26-93 2235
Relinquished by	8-30-93 08:20	Received by	8/30/93 0820
Relinquished by	Date/Time	Received by	Date/Time
Relinquished by	Date/Time	Received by	Date/Time
Relinquished by	Date/Time	Received by	Date/Time

Condition of Samples Upon Arrival at Final Destination

Signature: Good

Date: 8/30/93

Temp. of Samples on Arrival (Temp. sensitive analysis only)

Signature

Date

Environmental Sample Chain of Custody Log

Research and Engineering

2cc76

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
SHEPARD & KELSEY LEASE	(NO NUMBER	M. J. BOOR	( ) X-6646
Facility Address		**Transporter Address**	
MAGNUM ROAD, BLOOMINGTON, NM		EYSD	
Facility Supervisor		**Method of Shipping**	
JOHN COY, CONOCO EPNA, ETN827-5813		HAND DELIVER	
Process Producing Sample	**Special Shipping Instructions**		
TEMP. WELLS			
Employee(s) Sampling	**Remarks**		
WILSON, JF & BOOR, MJ			
Other Employee(s) Handling			

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	No.	Analysis Req. ▶ Preservative	BTEX	TDS	PNA's 8270
SK-UPG2	8/25/93	0915	WATER	80 ml	40ml VOA	2	Yes, ACID	X		
SK-UPG2	8/25/93	0915	"	500 ml	GL-DK	1	NO		X	
SK-UPG1	8/25/93	0930	"	80 ml	40ml VOA	2	Yes, ACID	X		
SK-UPG1	8/25/93	0930	"	500ml	GL-DK	1	NO		X	
SK-DG1	8/25/93	1100	"	80ml	40ml VOA	2	Yes, ACID	X		
SK-DG1	8/25/93	1100	"	500ml	DK-GL	1	NO		X	
SK-DG1	8/25/93	1100	"	2L	DK-GL	2	NO			X

Signatures

	Bottles Relinquished by	Date/Time	Bottles Received by	Date/Time	Condition of Samples Upon Arrival at Final Destination
1	G. Engleking by JFW	8/20/93 1330	Carl P. Wilson	8/25/93 0800	
2	Carl P. Wilson	8/26/93 2235	J. M. Boor	8-26-93 2235	Signature / Date
3	M. J. Boor	8-30-93 08:20			
4	Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only)
5	Relinquished by	Date/Time	Received by	Date/Time	4°C
6	Relinquished by	Date/Time	Received by	Date/Time	Signature / Date 9/3/93

Appendix F
Analytical Reports

Location: SAN JUAN
Project Name: SAN JUAN BASIN CLOSURE
Sample Source: SJN-NC-DG1
Sample Name: SJN-NC-DG1
Date Sampled: August 26, 1993
Lab Sample ID: P308088-03 Analysis Lab: PONCA CITY

Method Number: 160_1

Analyte/Parameter	Dilution	Result	MDL	PQL	Unit	Date Analyzed
TOTAL DISSOLVED SOLIDS	1	2915		10	MG/L	Sep 1, 1993

Method Number: 8020 Prep Method: 5030

Analyte/Parameter	Dilution	Result	MDL	PQL	Unit	Date Analyzed
BENZENE	1	< 3		3	UG/L	Sep 3, 1993
ETHYLBENZENE	1	< 3		3	UG/L	Sep 3, 1993
M-XYLENE	1	< 3		3	UG/L	Sep 3, 1993
O-XYLENE	1	< 3		3	UG/L	Sep 3, 1993
P-XYLENE	1	< 3		3	UG/L	Sep 3, 1993
TOLUENE	1	< 3		3	UG/L	Sep 3, 1993

Surrogates:

Analyte/Parameter	Dilution	RPR	Date Analyzed
TRIFLUOROTOLUENE	1	83.0	Sep 3, 1993

Method Number: 8270 Prep Method: 3520

Analyte/Parameter	Dilution	Result	MDL	PQL	Unit	Date Analyzed
2-METHYLNAPHTHALENE	2	< 20		20	UG/L	Sep 10, 1993
3-METHYLCHOLANTHRENE	2	< 20		20	UG/L	Sep 10, 1993
7,12-DIMETHYLBENZ(A)ANTHRACENE	2	< 20		20	UG/L	Sep 10, 1993
ACENAPHTHENE	2	< 20		20	UG/L	Sep 10, 1993
ACENAPHTHYLENE	2	< 20		20	UG/L	Sep 10, 1993
ANTHRACENE	2	< 20		20	UG/L	Sep 10, 1993
BENZO(A)ANTHRACENE	2	< 20		20	UG/L	Sep 10, 1993
BENZO(A)PYRENE	2	< 20		20	UG/L	Sep 10, 1993
BENZO(B)FLUORANTHENE	2	< 20		20	UG/L	Sep 10, 1993
BENZO(G,H,I)PERYLENE	2	< 20		20	UG/L	Sep 10, 1993
BENZO(K)FLUORANTHENE	2	< 20		20	UG/L	Sep 10, 1993
CHRYSENE	2	< 20		20	UG/L	Sep 10, 1993
DIBENZ(A,H)ANTHRACENE	2	< 20		20	UG/L	Sep 10, 1993
DIBENZ(A,J)ACRIDINE	2	< 20		20	UG/L	Sep 10, 1993
FLUORANTHENE	2	< 20		20	UG/L	Sep 10, 1993
FLUORENE	2	< 20		20	UG/L	Sep 10, 1993
INDENO(1,2,3-CD)PYRENE	2	< 20		20	UG/L	Sep 10, 1993
NAPHTHALENE	2	< 20		20	UG/L	Sep 10, 1993
PHENANTHRENE	2	< 20		20	UG/L	Sep 10, 1993
PYRENE	2	< 20		20	UG/L	Sep 10, 1993

Surrogates:

Analyte/Parameter	Dilution	RPR	Date Analyzed
2-FLUOROBIPHENYL	2	71.0	Sep 10, 1993
NITROBENZENE-D5	2	71.0	Sep 10, 1993
TERPHENYL-D14	2	63.0	Sep 10, 1993

Location: SAN JUAN
Project Name: SAN JUAN BASIN CLOSURE
Sample Source: SJN-NC-UPG1
Sample Name: SJN-NC-UPG1
Date Sampled: August 26, 1993
Lab Sample ID: P308088-01 Analysis Lab: PONCA CITY

Method Number: 160_1

Analyte/Parameter	Dilution	Result	MDL	PQL	Unit	Date Analyzed
TOTAL DISSOLVED SOLIDS	1	6496		10	MG/L	Sep 1, 1993

Method Number: 8020 Prep Method: 5030

Analyte/Parameter	Dilution	Result	MDL	PQL	Unit	Date Analyzed
BENZENE	1	< 3		3	UG/L	Sep 3, 1993
ETHYLBENZENE	1	< 3		3	UG/L	Sep 3, 1993
M-XYLENE	1	< 3		3	UG/L	Sep 3, 1993
O-XYLENE	1	< 3		3	UG/L	Sep 3, 1993
P-XYLENE	1	< 3		3	UG/L	Sep 3, 1993
TOLUENE	1	< 3		3	UG/L	Sep 3, 1993

Surrogates:

Analyte/Parameter	Dilution	RPR	Date Analyzed
TRIFLUOROTOLUENE	1	90.0	Sep 3, 1993

Location: SAN JUAN
Project Name: SAN JUAN BASIN CLOSURE
Sample Source: SJN-NC-UPG2
Sample Name: SJN-NC-UPG2
Date Sampled: August 26, 1993
Lab Sample ID: P308088-02 Analysis Lab: PONCA CITY

Method Number: 160_1

Analyte/Parameter	Dilution	Result	MDL	PQL	Unit	Date Analyzed
TOTAL DISSOLVED SOLIDS	4	1330		40	MG/L	Sep 1, 1993

Method Number: 8020 Prep Method: 5030

Analyte/Parameter	Dilution	Result	MDL	PQL	Unit	Date Analyzed
BENZENE	1	< 3		3	UG/L	Sep 3, 1993
ETHYLBENZENE	1	< 3		3	UG/L	Sep 3, 1993
M-XYLENE	1	< 3		3	UG/L	Sep 3, 1993
O-XYLENE	1	< 3		3	UG/L	Sep 3, 1993
P-XYLENE	1	< 3		3	UG/L	Sep 3, 1993
TOLUENE	1	< 3		3	UG/L	Sep 3, 1993

Surrogates:

Analyte/Parameter	Dilution	RPR	Date Analyzed
TRIFLUOROTOLUENE	1	87.0	Sep 3, 1993

Location: SAN JUAN
Project Name: SAN JUAN BASIN CLOSURE
Sample Source: SJN-SAL-DG2
Sample Name: SJN-SAL-DG2
Date Sampled: August 26, 1993
Lab Sample ID: P308088-10 Analysis Lab: PONCA CITY

Method Number: 160_1

Analyte/Parameter	Dilution	Result	MDL	PQL	Unit	Date Analyzed
TOTAL DISSOLVED SOLIDS	4	1444		40	MG/L	Sep 1, 1993

Method Number: 8020 Prep Method: 5030

Analyte/Parameter	Dilution	Result	MDL	PQL	Unit	Date Analyzed
BENZENE	1	100		3	UG/L	Sep 7, 1993
ETHYLBENZENE	1	< 3		3	UG/L	Sep 7, 1993
M-XYLENE	1	< 3		3	UG/L	Sep 7, 1993
O-XYLENE	1	< 3		3	UG/L	Sep 7, 1993
P-XYLENE	1	< 3		3	UG/L	Sep 7, 1993
TOLUENE	1	< 3		3	UG/L	Sep 7, 1993

Surrogates:

Analyte/Parameter	Dilution	RPR	Date Analyzed
TRIFLUOROTOLUENE	1	80.0	Sep 7, 1993

Location: SAN JUAN
Project Name: SAN JUAN BASIN CLOSURE
Sample Source: SJN-SAL-UPG2
Sample Name: SJN-SAL-UPG2
Date Sampled: August 25, 1993
Lab Sample ID: P308088-08 Analysis Lab: PONCA CITY

Method Number: 160_1

Analyte/Parameter	Dilution	Result	MDL	PQL	Unit	Date Analyzed
TOTAL DISSOLVED SOLIDS	4	1340		40	MG/L	Sep 1, 1993

Method Number: 8020 Prep Method: 5030

Analyte/Parameter	Dilution	Result	MDL	PQL	Unit	Date Analyzed
BENZENE	1	< 3		3	UG/L	Sep 3, 1993
ETHYLBENZENE	1	< 3		3	UG/L	Sep 3, 1993
M-XYLENE	1	< 3		3	UG/L	Sep 3, 1993
O-XYLENE	1	< 3		3	UG/L	Sep 3, 1993
P-XYLENE	1	< 3		3	UG/L	Sep 3, 1993
TOLUENE	1	< 3		3	UG/L	Sep 3, 1993

Surrogates:

Analyte/Parameter	Dilution	RPR	Date Analyzed
TRIFLUOROTOLUENE	1	83.0	Sep 3, 1993

Location: SAN JUAN
Project Name: SAN JUAN BASIN CLOSURE
Sample Source: SJN-SK-DG1
Sample Name: SJN-SK-DG1
Date Sampled: August 25, 1993
Lab Sample ID: P308088-06 Analysis Lab: PONCA CITY

Method Number: 160_1

Analyte/Parameter	Dilution	Result	MDL	PQL	Unit	Date Analyzed
TOTAL DISSOLVED SOLIDS	4	1288		40	MG/L	Sep 1, 1993

Method Number: 8020 Prep Method: 5030

Analyte/Parameter	Dilution	Result	MDL	PQL	Unit	Date Analyzed
BENZENE	20	160		60	UG/L	Sep 3, 1993
ETHYLBENZENE	20	530		60	UG/L	Sep 3, 1993
M-XYLENE	20	3600		60	UG/L	Sep 3, 1993
O-XYLENE	20	1300		60	UG/L	Sep 3, 1993
P-XYLENE	20	1300		60	UG/L	Sep 3, 1993
TOLUENE	20	1600		60	UG/L	Sep 3, 1993

Surrogates:

Analyte/Parameter	Dilution	RPR	Date Analyzed
TRIFLUOROTOLUENE	20	115.0	Sep 3, 1993

Method Number: 8270 Prep Method: 3520

Analyte/Parameter	Dilution	Result	MDL	PQL	Unit	Date Analyzed
2-METHYLNAPHTHALENE	1	< 10		10	UG/L	Sep 10, 1993
3-METHYLCHOLANTHRENE	1	< 10		10	UG/L	Sep 10, 1993
7,12-DIMETHYLBENZ(A)ANTHRACENE	1	< 10		10	UG/L	Sep 10, 1993
ACENAPHTHENE	1	< 10		10	UG/L	Sep 10, 1993
ACENAPHTHYLENE	1	< 10		10	UG/L	Sep 10, 1993
ANTHRACENE	1	< 10		10	UG/L	Sep 10, 1993
BENZO(A)ANTHRACENE	1	< 10		10	UG/L	Sep 10, 1993
BENZO(A)PYRENE	1	< 10		10	UG/L	Sep 10, 1993
BENZO(B)FLUORANTHENE	1	< 10		10	UG/L	Sep 10, 1993
BENZO(G,H,I)PERYLENE	1	< 10		10	UG/L	Sep 10, 1993
BENZO(K)FLUORANTHENE	1	< 10		10	UG/L	Sep 10, 1993
CHRYSENE	1	< 10		10	UG/L	Sep 10, 1993
DIBENZ(A,H)ANTHRACENE	1	< 10		10	UG/L	Sep 10, 1993
DIBENZ(A,J)ACRIDINE	1	< 10		10	UG/L	Sep 10, 1993
FLUORANTHENE	1	< 10		10	UG/L	Sep 10, 1993
FLUORENE	1	< 10		10	UG/L	Sep 10, 1993
INDENO(1,2,3-CD)PYRENE	1	< 10		10	UG/L	Sep 10, 1993
NAPHTHALENE	1	< 10		10	UG/L	Sep 10, 1993
PHENANTHRENE	1	< 10		10	UG/L	Sep 10, 1993
PYRENE	1	< 10		10	UG/L	Sep 10, 1993

Surrogates:

Analyte/Parameter	Dilution	RPR	Date Analyzed
2-FLUOROBIPHENYL	1	66.0	Sep 10, 1993
NITROBENZENE-D5	1	78.0	Sep 10, 1993
TERPHENYL-D14	1	20.0	Sep 10, 1993

Comments:

8270: SURROGATE RECOVERY FOR TERPHENYL-D14 WAS LOW. THE SAMPLE WAS RE-ANALYZED WITH NO CHANGES NOTED. THE SAMPLE WAS THEN RE-EXTRACTED AND REANALYZED EVEN THOUGH HOLD TIMES HAD EXPIRED. NO CHANGES WERE NOTED ON THE RE-EXTRACT.

Location: SAN JUAN
Project Name: SAN JUAN BASIN CLOSURE
Sample Source: SJN-SK-UPG2
Sample Name: SJN-SK-UPG2
Date Sampled: August 25, 1993
Lab Sample ID: P308088-04 Analysis Lab: PONCA CITY

Method Number: 160_1

Analyte/Parameter	Dilution	Result	MDL	PQL	Unit	Date Analyzed
TOTAL DISSOLVED SOLIDS	4	1500		40	MG/L	Sep 1, 1993

Method Number: 8020 Prep Method: 5030

Analyte/Parameter	Dilution	Result	MDL	PQL	Unit	Date Analyzed
BENZENE	1	8.4		3	UG/L	Sep 3, 1993
ETHYLBENZENE	1	23		3	UG/L	Sep 3, 1993
M-XYLENE	1	6.7		3	UG/L	Sep 3, 1993
O-XYLENE	1	6.5		3	UG/L	Sep 3, 1993
P-XYLENE	1	12		3	UG/L	Sep 3, 1993
TOLUENE	1	4.8		3	UG/L	Sep 3, 1993

Location: SAN JUAN
Project Name: SAN JUAN BASIN CLOSURE
Sample Source: SJN-TRIP BLNK
Sample Name: SJN-TRIP BLNK
Date Sampled: August 19, 1993
Lab Sample ID: P308088-11 Analysis Lab: PONCA CITY

Method Number: 8020 Prep Method: 5030

Analyte/Parameter	Dilution	Result	MDL	PQL	Unit	Date Analyzed
BENZENE	1	< 3		3	UG/L	Sep 7, 1993
ETHYLBENZENE	1	< 3		3	UG/L	Sep 7, 1993
M-XYLENE	1	< 3		3	UG/L	Sep 7, 1993
O-XYLENE	1	< 3		3	UG/L	Sep 7, 1993
P-XYLENE	1	< 3		3	UG/L	Sep 7, 1993
TOLUENE	1	< 3		3	UG/L	Sep 7, 1993

Surrogates:

Analyte/Parameter	Dilution	RPR	Date Analyzed
TRIFLUOROTOLUENE	1	90.0	Sep 7, 1993

Location: SAN JUAN
Project Name: SAN JUAN BASIN CLOSURE

Analyte/Parameter	Result	Unit	MDL	PQL	Method No.	Analyzed	Sample Name
TOTAL DISSOLVED SOLIDS	2915	MG/L		10	160_1	93-09-01	SJN-NC-DG1
TOTAL DISSOLVED SOLIDS	6496	MG/L		10	160_1	93-09-01	SJN-NC-UPG1
TOTAL DISSOLVED SOLIDS	1330	MG/L		40	160_1	93-09-01	SJN-NC-UPG2
TOTAL DISSOLVED SOLIDS	1116	MG/L		40	160_1	93-09-01	SJN-SAL-DG1
BENZENE	8300	UG/L		300	8020	93-09-08	SJN-SAL-DG1
M-XYLENE	1700	UG/L		300	8020	93-09-08	SJN-SAL-DG1
O-XYLENE	660	UG/L		300	8020	93-09-08	SJN-SAL-DG1
P-XYLENE	610	UG/L		300	8020	93-09-08	SJN-SAL-DG1
TOLUENE	12000	UG/L		300	8020	93-09-08	SJN-SAL-DG1
TOTAL DISSOLVED SOLIDS	1444	MG/L		40	160_1	93-09-01	SJN-SAL-DG2
BENZENE	100	UG/L		3	8020	93-09-07	SJN-SAL-DG2
TOTAL DISSOLVED SOLIDS	1044	MG/L		40	160_1	93-09-01	SJN-SAL-UPG1
BENZENE	98	UG/L		3	8020	93-09-03	SJN-SAL-UPG1
ETHYLBENZENE	9.7	UG/L		3	8020	93-09-03	SJN-SAL-UPG1
M-XYLENE	61	UG/L		3	8020	93-09-03	SJN-SAL-UPG1
O-XYLENE	25	UG/L		3	8020	93-09-03	SJN-SAL-UPG1
P-XYLENE	24	UG/L		3	8020	93-09-03	SJN-SAL-UPG1
TOLUENE	52	UG/L		3	8020	93-09-03	SJN-SAL-UPG1
TOTAL DISSOLVED SOLIDS	1340	MG/L		40	160_1	93-09-01	SJN-SAL-UPG2
TOTAL DISSOLVED SOLIDS	1288	MG/L		40	160_1	93-09-01	SJN-SK-DG1
BENZENE	160	UG/L		60	8020	93-09-03	SJN-SK-DG1
ETHYLBENZENE	530	UG/L		60	8020	93-09-03	SJN-SK-DG1
M-XYLENE	3600	UG/L		60	8020	93-09-03	SJN-SK-DG1
O-XYLENE	1300	UG/L		60	8020	93-09-03	SJN-SK-DG1
P-XYLENE	1300	UG/L		60	8020	93-09-03	SJN-SK-DG1
TOLUENE	1600	UG/L		60	8020	93-09-03	SJN-SK-DG1
TOTAL DISSOLVED SOLIDS	1828	MG/L		40	160_1	93-09-01	SJN-SK-UPG1
ETHYLBENZENE	7.6	UG/L		3	8020	93-09-03	SJN-SK-UPG1
TOLUENE	4.5	UG/L		3	8020	93-09-03	SJN-SK-UPG1
TOTAL DISSOLVED SOLIDS	1500	MG/L		40	160_1	93-09-01	SJN-SK-UPG2
BENZENE	8.4	UG/L		3	8020	93-09-03	SJN-SK-UPG2
ETHYLBENZENE	23	UG/L		3	8020	93-09-03	SJN-SK-UPG2
M-XYLENE	6.7	UG/L		3	8020	93-09-03	SJN-SK-UPG2
O-XYLENE	6.5	UG/L		3	8020	93-09-03	SJN-SK-UPG2
P-XYLENE	12	UG/L		3	8020	93-09-03	SJN-SK-UPG2
TOLUENE	4.8	UG/L		3	8020	93-09-03	SJN-SK-UPG2

SJN-NC-DG1
Lab Sample ID: P308088-03 Analysis Lab: PONCA CITY

Method Number: 160_1
Batch Start Date: 01-SEP-93 Instrument: BAXTER DK-43 Batch Number: 1

Replicate:

Analyte/Parameter	Result	Unit	RPD	Lab Sample ID
TOTAL DISSOLVED SOLIDS	6656	MG/L	2.4	P308088-01 PONCA CITY

Method Number: 8020 Prep Method: 5030
Batch Start Date: 03-SEP-93 Instrument: HPGC5 Batch Number: 1

Spike:

Analyte/Parameter	RPR	Lab Sample ID
BENZENE	98.0	P308088-01 PONCA CITY
ETHYLBENZENE	98.0	P308088-01 PONCA CITY
M-XYLENE	98.0	P308088-01 PONCA CITY
O-XYLENE	98.0	P308088-01 PONCA CITY
P-XYLENE	98.0	P308088-01 PONCA CITY
TOLUENE	98.0	P308088-01 PONCA CITY

Surrogates:

TRIFLUOROTOLUENE	90.0	P308088-01 PONCA CITY

Spike Duplicate:

Analyte/Parameter	RPR	RPD	Lab Sample ID
BENZENE	98.0	0.0	P308088-01 PONCA CITY
ETHYLBENZENE	98.0	0.0	P308088-01 PONCA CITY
M-XYLENE	98.0	0.0	P308088-01 PONCA CITY
O-XYLENE	98.0	0.0	P308088-01 PONCA CITY
P-XYLENE	98.0	0.0	P308088-01 PONCA CITY
TOLUENE	98.0	0.0	P308088-01 PONCA CITY

Surrogates:

TRIFLUOROTOLUENE	90.0	0.0	P308088-01 PONCA CITY

Method Number: 8270 Prep Method: 3520
Batch Start Date: 10-SEP-93 Instrument: HP1 Batch Number: 1

Spike:

Analyte/Parameter	RPR	Lab Sample ID
2-METHYLNAPHTHALENE	92.0	P308088-03 PONCA CITY
3-METHYLCHOLANTHRENE	89.0	P308088-03 PONCA CITY
7,12-DIMETHYLBENZ(A)ANTHRACENE	34.0	P308088-03 PONCA CITY
ACENAPHTHENE	93.0	P308088-03 PONCA CITY
ACENAPHTHYLENE	94.0	P308088-03 PONCA CITY
ANTHRACENE	89.0	P308088-03 PONCA CITY
BENZO(A)ANTHRACENE	104.0	P308088-03 PONCA CITY
BENZO(A)PYRENE	104.0	P308088-03 PONCA CITY
BENZO(B)FLUORANTHENE	98.0	P308088-03 PONCA CITY
BENZO(G,H,I)PERYLENE	127.0	P308088-03 PONCA CITY
BENZO(K)FLUORANTHENE	104.0	P308088-03 PONCA CITY
CHRYSENE	105.0	P308088-03 PONCA CITY
DIBENZ(A,H)ANTHRACENE	120.0	P308088-03 PONCA CITY
DIBENZ(A,J)ACRIDINE	122.0	P308088-03 PONCA CITY
FLUORANTHENE	100.0	P308088-03 PONCA CITY

SJN-NC-DG1
Lab Sample ID: P308088-03 Analysis Lab: PONCA CITY

Analyte/Parameter	RPR	Lab Sample ID
FLUORENE	96.0	P308088-03 PONCA CITY
INDENO(1,2,3-CD)PYRENE	122.0	P308088-03 PONCA CITY
NAPHTHALENE	91.0	P308088-03 PONCA CITY
PHENANTHRENE	96.0	P308088-03 PONCA CITY
PYRENE	101.0	P308088-03 PONCA CITY
Surrogates:		
2-FLUOROBIPHENYL	76.0	P308088-03 PONCA CITY
NITROBENZENE-D5	76.0	P308088-03 PONCA CITY
TERPHENYL-D14	71.0	P308088-03 PONCA CITY

Spike Duplicate:

Analyte/Parameter	RPR	RPD	Lab Sample ID
2-METHYLNAPHTHALENE	100.0	8.0	P308088-03 PONCA CITY
3-METHYLCHOLANTHRENE	91.0	3.0	P308088-03 PONCA CITY
7,12-DIMETHYLBENZ(A)ANTHRACENE	27.0	[illegible]	P308088-03 PONCA CITY
ACENAPHTHENE	98.0	5.0	P308088-03 PONCA CITY
ACENAPHTHYLENE	100.0	7.0	P308088-03 PONCA CITY
ANTHRACENE	92.0	3.0	P308088-03 PONCA CITY
BENZO(A)ANTHRACENE	109.0	4.0	P308088-03 PONCA CITY
BENZO(A)PYRENE	109.0	5.0	P308088-03 PONCA CITY
BENZO(B)FLUORANTHENE	107.0	9.0	P308088-03 PONCA CITY
BENZO(G,H,I)PERYLENE	116.0	9.0	P308088-03 PONCA CITY
BENZO(K)FLUORANTHENE	110.0	6.0	P308088-03 PONCA CITY
CHRYSENE	110.0	4.0	P308088-03 PONCA CITY
DIBENZ(A,H)ANTHRACENE	114.0	5.0	P308088-03 PONCA CITY
DIBENZ(A,J)ACRIDINE	116.0	5.0	P308088-03 PONCA CITY
FLUORANTHENE	102.0	2.0	P308088-03 PONCA CITY
FLUORENE	99.0	3.0	P308088-03 PONCA CITY
INDENO(1,2,3-CD)PYRENE	113.0	8.0	P308088-03 PONCA CITY
NAPHTHALENE	102.0	11.0	P308088-03 PONCA CITY
PHENANTHRENE	100.0	4.0	P308088-03 PONCA CITY
PYRENE	110.0	8.0	P308088-03 PONCA CITY
Surrogates:			
2-FLUOROBIPHENYL	81.0		P308088-03 PONCA CITY
NITROBENZENE-D5	88.0		P308088-03 PONCA CITY
TERPHENYL-D14	75.0		P308088-03 PONCA CITY

SJN-NC-UPG1
Lab Sample ID: P308088-01 Analysis Lab: PONCA CITY

Method Number: 160_1
Batch Start Date: 01-SEP-93 Instrument: BAXTER DK-43 Batch Number: 1

Replicate:

Analyte/Parameter	Result	Unit	RPD	Lab Sample ID
TOTAL DISSOLVED SOLIDS	6656	MG/L	2.4	P308088-01 PONCA CITY

Method Number: 8020 Prep Method: 5030
Batch Start Date: 03-SEP-93 Instrument: HPGC5 Batch Number: 1

Spike:

Analyte/Parameter	RPR	Lab Sample ID
BENZENE	98.0	P308088-01 PONCA CITY
ETHYLBENZENE	98.0	P308088-01 PONCA CITY
M-XYLENE	98.0	P308088-01 PONCA CITY
O-XYLENE	98.0	P308088-01 PONCA CITY
P-XYLENE	98.0	P308088-01 PONCA CITY
TOLUENE	98.0	P308088-01 PONCA CITY
Surrogates:		
TRIFLUOROTOLUENE	90.0	P308088-01 PONCA CITY

Spike Duplicate:

Analyte/Parameter	RPR	RPD	Lab Sample ID
BENZENE	98.0	0.0	P308088-01 PONCA CITY
ETHYLBENZENE	98.0	0.0	P308088-01 PONCA CITY
M-XYLENE	98.0	0.0	P308088-01 PONCA CITY
O-XYLENE	98.0	0.0	P308088-01 PONCA CITY
P-XYLENE	98.0	0.0	P308088-01 PONCA CITY
TOLUENE	98.0	0.0	P308088-01 PONCA CITY
Surrogates:			
TRIFLUOROTOLUENE	90.0	0.0	P308088-01 PONCA CITY

SJN-NC-UPG2
Lab Sample ID: P308088-02 Analysis Lab: PONCA CITY

Method Number: 160_1
Batch Start Date: 01-SEP-93 Instrument: BAXTER DK-43 Batch Number: 1

Replicate:

Analyte/Parameter	Result	Unit	RPD	Lab Sample ID
TOTAL DISSOLVED SOLIDS	6656	MG/L	2.4	P308088-01 PONCA CITY

Method Number: 8020 Prep Method: 5030
Batch Start Date: 03-SEP-93 Instrument: HPGC5 Batch Number: 1

Spike:

Analyte/Parameter	RPR	Lab Sample ID
BENZENE	98.0	P308088-01 PONCA CITY
ETHYLBENZENE	98.0	P308088-01 PONCA CITY
M-XYLENE	98.0	P308088-01 PONCA CITY
O-XYLENE	98.0	P308088-01 PONCA CITY
P-XYLENE	98.0	P308088-01 PONCA CITY
TOLUENE	98.0	P308088-01 PONCA CITY
Surrogates:		
TRIFLUOROTOLUENE	90.0	P308088-01 PONCA CITY

Spike Duplicate:

Analyte/Parameter	RPR	RPD	Lab Sample ID
BENZENE	98.0	0.0	P308088-01 PONCA CITY
ETHYLBENZENE	98.0	0.0	P308088-01 PONCA CITY
M-XYLENE	98.0	0.0	P308088-01 PONCA CITY
O-XYLENE	98.0	0.0	P308088-01 PONCA CITY
P-XYLENE	98.0	0.0	P308088-01 PONCA CITY
TOLUENE	98.0	0.0	P308088-01 PONCA CITY
Surrogates:			
TRIFLUOROTOLUENE	90.0	0.0	P308088-01 PONCA CITY

SJN-SAL-DG1
Lab Sample ID: P308088-09 Analysis Lab: PONCA CITY

Method Number: 160_1
Batch Start Date: 01-SEP-93 Instrument: BAXTER DK-43 Batch Number: 1

Replicate:

Analyte/Parameter	Result	Unit	RPD	Lab Sample ID	
TOTAL DISSOLVED SOLIDS	6656	MG/L	2.4	P308088-01	PONCA CITY

Method Number: 8020 Prep Method: 5030
Batch Start Date: 03-SEP-93 Instrument: HPGC5 Batch Number: 1

Spike:

Analyte/Parameter	RPR	Lab Sample ID	
BENZENE	98.0	P308088-01	PONCA CITY
ETHYLBENZENE	98.0	P308088-01	PONCA CITY
M-XYLENE	98.0	P308088-01	PONCA CITY
O-XYLENE	98.0	P308088-01	PONCA CITY
P-XYLENE	98.0	P308088-01	PONCA CITY
TOLUENE	98.0	P308088-01	PONCA CITY

Surrogates:

TRIFLUOROTOLUENE	90.0	P308088-01	PONCA CITY

Spike Duplicate:

Analyte/Parameter	RPR	RPD	Lab Sample ID	
BENZENE	98.0	0.0	P308088-01	PONCA CITY
ETHYLBENZENE	98.0	0.0	P308088-01	PONCA CITY
M-XYLENE	98.0	0.0	P308088-01	PONCA CITY
O-XYLENE	98.0	0.0	P308088-01	PONCA CITY
P-XYLENE	98.0	0.0	P308088-01	PONCA CITY
TOLUENE	98.0	0.0	P308088-01	PONCA CITY

Surrogates:

TRIFLUOROTOLUENE	90.0	0.0	P308088-01	PONCA CITY

Method Number: 8270 Prep Method: 3520
Batch Start Date: 10-SEP-93 Instrument: HP1 Batch Number: 1

Spike:

Analyte/Parameter	RPR	Lab Sample ID	
2-METHYLNAPHTHALENE	92.0	P308088-03	PONCA CITY
3-METHYLCHOLANTHRENE	89.0	P308088-03	PONCA CITY
7,12-DIMETHYLBENZ(A)ANTHRACENE	34.0	P308088-03	PONCA CITY
ACENAPHTHENE	93.0	P308088-03	PONCA CITY
ACENAPHTHYLENE	94.0	P308088-03	PONCA CITY
ANTHRACENE	89.0	P308088-03	PONCA CITY
BENZO(A)ANTHRACENE	104.0	P308088-03	PONCA CITY
BENZO(A)PYRENE	104.0	P308088-03	PONCA CITY
BENZO(B)FLUORANTHENE	98.0	P308088-03	PONCA CITY
BENZO(G,H,I)PERYLENE	127.0	P308088-03	PONCA CITY
BENZO(K)FLUORANTHENE	104.0	P308088-03	PONCA CITY
CHRYSENE	105.0	P308088-03	PONCA CITY
DIBENZ(A,H)ANTHRACENE	120.0	P308088-03	PONCA CITY
DIBENZ(A,J)ACRIDINE	122.0	P308088-03	PONCA CITY
FLUORANTHENE	100.0	P308088-03	PONCA CITY

SJN-SAL-DG1
Lab Sample ID: P308088-09 Analysis Lab: PONCA CITY

Analyte/Parameter	RPR	Lab Sample ID	
FLUORENE	96.0	P308088-03	PONCA CITY
INDENO(1,2,3-CD)PYRENE	122.0	P308088-03	PONCA CITY
NAPHTHALENE	91.0	P308088-03	PONCA CITY
PHENANTHRENE	96.0	P308088-03	PONCA CITY
PYRENE	101.0	P308088-03	PONCA CITY
Surrogates:			
2-FLUOROBIPHENYL	76.0	P308088-03	PONCA CITY
NITROBENZENE-D5	76.0	P308088-03	PONCA CITY
TERPHENYL-D14	71.0	P308088-03	PONCA CITY

Spike Duplicate:

Analyte/Parameter	RPR	RPD	Lab Sample ID	
2-METHYLNAPHTHALENE	100.0	8.0	P308088-03	PONCA CITY
3-METHYLCHOLANTHRENE	91.0	3.0	P308088-03	PONCA CITY
7,12-DIMETHYLBENZ(A)ANTHRACE	27.0	21.0	P308088-03	PONCA CITY
ACENAPHTHENE	98.0	5.0	P308088-03	PONCA CITY
ACENAPHTHYLENE	100.0	7.0	P308088-03	PONCA CITY
ANTHRACENE	92.0	3.0	P308088-03	PONCA CITY
BENZO(A)ANTHRACENE	109.0	4.0	P308088-03	PONCA CITY
BENZO(A)PYRENE	109.0	5.0	P308088-03	PONCA CITY
BENZO(B)FLUORANTHENE	107.0	9.0	P308088-03	PONCA CITY
BENZO(G,H,I)PERYLENE	116.0	9.0	P308088-03	PONCA CITY
BENZO(K)FLUORANTHENE	110.0	6.0	P308088-03	PONCA CITY
CHRYSENE	110.0	4.0	P308088-03	PONCA CITY
DIBENZ(A,H)ANTHRACENE	114.0	5.0	P308088-03	PONCA CITY
DIBENZ(A,J)ACRIDINE	116.0	5.0	P308088-03	PONCA CITY
FLUORANTHENE	102.0	2.0	P308088-03	PONCA CITY
FLUORENE	99.0	3.0	P308088-03	PONCA CITY
INDENO(1,2,3-CD)PYRENE	113.0	8.0	P308088-03	PONCA CITY
NAPHTHALENE	102.0	11.0	P308088-03	PONCA CITY
PHENANTHRENE	100.0	4.0	P308088-03	PONCA CITY
PYRENE	110.0	8.0	P308088-03	PONCA CITY
Surrogates:				
2-FLUOROBIPHENYL	81.0		P308088-03	PONCA CITY
NITROBENZENE-D5	88.0		P308088-03	PONCA CITY
TERPHENYL-D14	75.0		P308088-03	PONCA CITY

SJN-SAL-DG2
Lab Sample ID: P308088-10 Analysis Lab: PONCA CITY

Method Number: 160_1
Batch Start Date: 01-SEP-93 Instrument: BAXTER DK-43 Batch Number: 1

Replicate:

Analyte/Parameter	Result	Unit	RPD	Lab Sample ID
TOTAL DISSOLVED SOLIDS	6656	MG/L	2.4	P308088-01 PONCA CITY

Method Number: 8020 Prep Method: 5030
Batch Start Date: 03-SEP-93 Instrument: HPGC5 Batch Number: 1

Spike:

Analyte/Parameter	RPR	Lab Sample ID
BENZENE	98.0	P308088-01 PONCA CITY
ETHYLBENZENE	98.0	P308088-01 PONCA CITY
M-XYLENE	98.0	P308088-01 PONCA CITY
O-XYLENE	98.0	P308088-01 PONCA CITY
P-XYLENE	98.0	P308088-01 PONCA CITY
TOLUENE	98.0	P308088-01 PONCA CITY
Surrogates:		
TRIFLUOROTOLUENE	90.0	P308088-01 PONCA CITY

Spike Duplicate:

Analyte/Parameter	RPR	RPD	Lab Sample ID
BENZENE	98.0	0.0	P308088-01 PONCA CITY
ETHYLBENZENE	98.0	0.0	P308088-01 PONCA CITY
M-XYLENE	98.0	0.0	P308088-01 PONCA CITY
O-XYLENE	98.0	0.0	P308088-01 PONCA CITY
P-XYLENE	98.0	0.0	P308088-01 PONCA CITY
TOLUENE	98.0	0.0	P308088-01 PONCA CITY
Surrogates:			
TRIFLUOROTOLUENE	90.0	0.0	P308088-01 PONCA CITY

SJN-SAL-UPG1
Lab Sample ID: P308088-07 Analysis Lab: PONCA CITY

Method Number: 160_1 Batch Start Date: 01-SEP-93 Instrument: BAXTER DK-43 Batch Number: 1

Replicate:

Analyte/Parameter	Result	Unit	RPD	Lab Sample ID
TOTAL DISSOLVED SOLIDS	6656	MG/L	2.4	P308088-01 PONCA CITY

Method Number: 8020 Prep Method: 5030 Batch Start Date: 03-SEP-93 Instrument: HPGC5 Batch Number: 1

Spike:

Analyte/Parameter	RPR	Lab Sample ID
BENZENE	98.0	P308088-01 PONCA CITY
ETHYLBENZENE	98.0	P308088-01 PONCA CITY
M-XYLENE	98.0	P308088-01 PONCA CITY
O-XYLENE	98.0	P308088-01 PONCA CITY
P-XYLENE	98.0	P308088-01 PONCA CITY
TOLUENE	98.0	P308088-01 PONCA CITY
Surrogates:		
TRIFLUOROTOLUENE	90.0	P308088-01 PONCA CITY

Spike Duplicate:

Analyte/Parameter	RPR	RPD	Lab Sample ID
BENZENE	98.0	0.0	P308088-01 PONCA CITY
ETHYLBENZENE	98.0	0.0	P308088-01 PONCA CITY
M-XYLENE	98.0	0.0	P308088-01 PONCA CITY
O-XYLENE	98.0	0.0	P308088-01 PONCA CITY
P-XYLENE	98.0	0.0	P308088-01 PONCA CITY
TOLUENE	98.0	0.0	P308088-01 PONCA CITY
Surrogates:			
TRIFLUOROTOLUENE	90.0	0.0	P308088-01 PONCA CITY

SJN-SAL-UPG2
Lab Sample ID: P308088-08 Analysis Lab: PONCA CITY

Method Number: 160_1
Batch Start Date: 01-SEP-93 Instrument: BAXTER DK-43 Batch Number: 1

Replicate:

Analyte/Parameter	Result	Unit	RPD	Lab Sample ID	
TOTAL DISSOLVED SOLIDS	6656	MG/L	2.4	P308088-01	PONCA CITY

Method Number: 8020 Prep Method: 5030
Batch Start Date: 03-SEP-93 Instrument: HPGC5 Batch Number: 1

Spike:

Analyte/Parameter	RPR	Lab Sample ID	
BENZENE	98.0	P308088-01	PONCA CITY
ETHYLBENZENE	98.0	P308088-01	PONCA CITY
M-XYLENE	98.0	P308088-01	PONCA CITY
O-XYLENE	98.0	P308088-01	PONCA CITY
P-XYLENE	98.0	P308088-01	PONCA CITY
TOLUENE	98.0	P308088-01	PONCA CITY
Surrogates:			
TRIFLUOROTOLUENE	90.0	P308088-01	PONCA CITY

Spike Duplicate:

Analyte/Parameter	RPR	RPD	Lab Sample ID	
BENZENE	98.0	0.0	P308088-01	PONCA CITY
ETHYLBENZENE	98.0	0.0	P308088-01	PONCA CITY
M-XYLENE	98.0	0.0	P308088-01	PONCA CITY
O-XYLENE	98.0	0.0	P308088-01	PONCA CITY
P-XYLENE	98.0	0.0	P308088-01	PONCA CITY
TOLUENE	98.0	0.0	P308088-01	PONCA CITY
Surrogates:				
TRIFLUOROTOLUENE	90.0	0.0	P308088-01	PONCA CITY

SJN-SK-DG1
Lab Sample ID: P308088-06 Analysis Lab: PONCA CITY

Method Number: 160_1
Batch Start Date: 01-SEP-93 Instrument: BAXTER DK-43 Batch Number: 1

Replicate:

Analyte/Parameter	Result	Unit	RPD	Lab Sample ID
TOTAL DISSOLVED SOLIDS	6656	MG/L	2.4	P308088-01 PONCA CITY

Method Number: 8020 Prep Method: 5030
Batch Start Date: 03-SEP-93 Instrument: HPGC5 Batch Number: 1

Spike:

Analyte/Parameter	RPR	Lab Sample ID
BENZENE	98.0	P308088-01 PONCA CITY
ETHYLBENZENE	98.0	P308088-01 PONCA CITY
M-XYLENE	98.0	P308088-01 PONCA CITY
O-XYLENE	98.0	P308088-01 PONCA CITY
P-XYLENE	98.0	P308088-01 PONCA CITY
TOLUENE	98.0	P308088-01 PONCA CITY
Surrogates:		
TRIFLUOROTOLUENE	90.0	P308088-01 PONCA CITY

Spike Duplicate:

Analyte/Parameter	RPR	RPD	Lab Sample ID
BENZENE	98.0	0.0	P308088-01 PONCA CITY
ETHYLBENZENE	98.0	0.0	P308088-01 PONCA CITY
M-XYLENE	98.0	0.0	P308088-01 PONCA CITY
O-XYLENE	98.0	0.0	P308088-01 PONCA CITY
P-XYLENE	98.0	0.0	P308088-01 PONCA CITY
TOLUENE	98.0	0.0	P308088-01 PONCA CITY
Surrogates:			
TRIFLUOROTOLUENE	90.0	0.0	P308088-01 PONCA CITY

Method Number: 8270 Prep Method: 3520
Batch Start Date: 10-SEP-93 Instrument: HP1 Batch Number: 1

Spike:

Analyte/Parameter	RPR	Lab Sample ID
2-METHYLNAPHTHALENE	92.0	P308088-03 PONCA CITY
3-METHYLCHOLANTHRENE	89.0	P308088-03 PONCA CITY
7,12-DIMETHYLBENZ(A)ANTHRACENE	34.0	P308088-03 PONCA CITY
ACENAPHTHENE	93.0	P308088-03 PONCA CITY
ACENAPHTHYLENE	94.0	P308088-03 PONCA CITY
ANTHRACENE	89.0	P308088-03 PONCA CITY
BENZO(A)ANTHRACENE	104.0	P308088-03 PONCA CITY
BENZO(A)PYRENE	104.0	P308088-03 PONCA CITY
BENZO(B)FLUORANTHENE	98.0	P308088-03 PONCA CITY
BENZO(G,H,I)PERYLENE	127.0	P308088-03 PONCA CITY
BENZO(K)FLUORANTHENE	104.0	P308088-03 PONCA CITY
CHRYSENE	105.0	P308088-03 PONCA CITY
DIBENZ(A,H)ANTHRACENE	120.0	P308088-03 PONCA CITY
DIBENZ(A,J)ACRIDINE	122.0	P308088-03 PONCA CITY
FLUORANTHENE	100.0	P308088-03 PONCA CITY

SJN-SK-DG1
Lab Sample ID: P308088-06 Analysis Lab: PONCA CITY

Analyte/Parameter	RPR	Lab Sample ID	
FLUORENE	96.0	P308088-03	PONCA CITY
INDENO(1,2,3-CD)PYRENE	122.0	P308088-03	PONCA CITY
NAPHTHALENE	91.0	P308088-03	PONCA CITY
PHENANTHRENE	96.0	P308088-03	PONCA CITY
PYRENE	101.0	P308088-03	PONCA CITY
Surrogates:			
2-FLUOROBIPHENYL	76.0	P308088-03	PONCA CITY
NITROBENZENE-D5	76.0	P308088-03	PONCA CITY
TERPHENYL-D14	71.0	P308088-03	PONCA CITY

Spike Duplicate:

Analyte/Parameter	RPR	RPD	Lab Sample ID	
2-METHYLNAPHTHALENE	100.0	8.0	P308088-03	PONCA CITY
3-METHYLCHOLANTHRENE	91.0	3.0	P308088-03	PONCA CITY
7,12-DIMETHYLBENZ(A)ANTHRACENE	27.0	21.0	P308088-03	PONCA CITY
ACENAPHTHENE	98.0	5.0	P308088-03	PONCA CITY
ACENAPHTHYLENE	100.0	7.0	P308088-03	PONCA CITY
ANTHRACENE	92.0	3.0	P308088-03	PONCA CITY
BENZO(A)ANTHRACENE	109.0	4.0	P308088-03	PONCA CITY
BENZO(A)PYRENE	109.0	5.0	P308088-03	PONCA CITY
BENZO(B)FLUORANTHENE	107.0	9.0	P308088-03	PONCA CITY
BENZO(G,H,I)PERYLENE	116.0	9.0	P308088-03	PONCA CITY
BENZO(K)FLUORANTHENE	110.0	6.0	P308088-03	PONCA CITY
CHRYSENE	110.0	4.0	P308088-03	PONCA CITY
DIBENZ(A,H)ANTHRACENE	114.0	5.0	P308088-03	PONCA CITY
DIBENZ(A,J)ACRIDINE	116.0	5.0	P308088-03	PONCA CITY
FLUORANTHENE	102.0	2.0	P308088-03	PONCA CITY
FLUORENE	99.0	3.0	P308088-03	PONCA CITY
INDENO(1,2,3-CD)PYRENE	113.0	8.0	P308088-03	PONCA CITY
NAPHTHALENE	102.0	11.0	P308088-03	PONCA CITY
PHENANTHRENE	100.0	4.0	P308088-03	PONCA CITY
PYRENE	110.0	8.0	P308088-03	PONCA CITY
Surrogates:				
2-FLUOROBIPHENYL	81.0		P308088-03	PONCA CITY
NITROBENZENE-D5	88.0		P308088-03	PONCA CITY
TERPHENYL-D14	75.0		P308088-03	PONCA CITY

SJN-SK-UPG1
Lab Sample ID: P308088-05 Analysis Lab: PONCA CITY

Method Number: 160_1
Batch Start Date: 01-SEP-93 Instrument: BAXTER DK-43 Batch Number: 1

Replicate:

Analyte/Parameter	Result	Unit	RPD	Lab Sample ID	
TOTAL DISSOLVED SOLIDS	6656	MG/L	2.4	P308088-01	PONCA CITY

Method Number: 8020 Prep Method: 5030
Batch Start Date: 03-SEP-93 Instrument: HPGC5 Batch Number: 1

Spike:

Analyte/Parameter	RPR	Lab Sample ID	
BENZENE	98.0	P308088-01	PONCA CITY
ETHYLBENZENE	98.0	P308088-01	PONCA CITY
M-XYLENE	98.0	P308088-01	PONCA CITY
O-XYLENE	98.0	P308088-01	PONCA CITY
P-XYLENE	98.0	P308088-01	PONCA CITY
TOLUENE	98.0	P308088-01	PONCA CITY
Surrogates:			
TRIFLUOROTOLUENE	90.0	P308088-01	PONCA CITY

Spike Duplicate:

Analyte/Parameter	RPR	RPD	Lab Sample ID	
BENZENE	98.0	0.0	P308088-01	PONCA CITY
ETHYLBENZENE	98.0	0.0	P308088-01	PONCA CITY
M-XYLENE	98.0	0.0	P308088-01	PONCA CITY
O-XYLENE	98.0	0.0	P308088-01	PONCA CITY
P-XYLENE	98.0	0.0	P308088-01	PONCA CITY
TOLUENE	98.0	0.0	P308088-01	PONCA CITY
Surrogates:				
TRIFLUOROTOLUENE	90.0	0.0	P308088-01	PONCA CITY

SJN-SK-UPG2
Lab Sample ID: P308088-04 Analysis Lab: PONCA CITY

Method Number: 160_1
Batch Start Date: 01-SEP-93 Instrument: BAXTER DK-43 Batch Number: 1

Replicate:

Analyte/Parameter	Result	Unit	RPD	Lab Sample ID	
TOTAL DISSOLVED SOLIDS	6656	MG/L	2.4	P308088-01	PONCA CITY

Method Number: 8020 Prep Method: 5030
Batch Start Date: 03-SEP-93 Instrument: HPGC5 Batch Number: 1

Spike:

Analyte/Parameter	RPR	Lab Sample ID	
BENZENE	98.0	P308088-01	PONCA CITY
ETHYLBENZENE	98.0	P308088-01	PONCA CITY
M-XYLENE	98.0	P308088-01	PONCA CITY
O-XYLENE	98.0	P308088-01	PONCA CITY
P-XYLENE	98.0	P308088-01	PONCA CITY
TOLUENE	98.0	P308088-01	PONCA CITY
Surrogates:			
TRIFLUOROTOLUENE	90.0	P308088-01	PONCA CITY

Spike Duplicate:

Analyte/Parameter	RPR	RPD	Lab Sample ID	
BENZENE	98.0	0.0	P308088-01	PONCA CITY
ETHYLBENZENE	98.0	0.0	P308088-01	PONCA CITY
M-XYLENE	98.0	0.0	P308088-01	PONCA CITY
O-XYLENE	98.0	0.0	P308088-01	PONCA CITY
P-XYLENE	98.0	0.0	P308088-01	PONCA CITY
TOLUENE	98.0	0.0	P308088-01	PONCA CITY
Surrogates:				
TRIFLUOROTOLUENE	90.0	0.0	P308088-01	PONCA CITY

SJN-TRIP BLNK
Lab Sample ID: P308088-11 Analysis Lab: PONCA CITY

Method Number: 8020 Prep Method: 5030
Batch Start Date: 03-SEP-93 Instrument: HPGC5 Batch Number: 1

Spike:

Analyte/Parameter	RPR	Lab Sample ID	
BENZENE	98.0	P308088-01	PONCA CITY
ETHYLBENZENE	98.0	P308088-01	PONCA CITY
M-XYLENE	98.0	P308088-01	PONCA CITY
O-XYLENE	98.0	P308088-01	PONCA CITY
P-XYLENE	98.0	P308088-01	PONCA CITY
TOLUENE	98.0	P308088-01	PONCA CITY
Surrogates:			
TRIFLUOROTOLUENE	90.0	P308088-01	PONCA CITY

Spike Duplicate:

Analyte/Parameter	RPR	RPD	Lab Sample ID	
BENZENE	98.0	0.0	P308088-01	PONCA CITY
ETHYLBENZENE	98.0	0.0	P308088-01	PONCA CITY
M-XYLENE	98.0	0.0	P308088-01	PONCA CITY
O-XYLENE	98.0	0.0	P308088-01	PONCA CITY
P-XYLENE	98.0	0.0	P308088-01	PONCA CITY
TOLUENE	98.0	0.0	P308088-01	PONCA CITY
Surrogates:				
TRIFLUOROTOLUENE	90.0	0.0	P308088-01	PONCA CITY