State of New Mexico
Energy, Minerals and Natural Resources Department

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

Risk-bedrock

PIT REMEDIATION AND CLOSURE REPORT

Operator: Burlington Resources (Williams Field Services) Telephone: (801) 584-6361

Address: P.O. Box 58900, Salt Lake City, Utah 84158-0900

WellName: SJ 27-4 UNIT #32 (85704)

Location: Unit or Qtr/Qtr Sec D Sec 23 T 27N R 4W County Rio Arriba

PitType Dehydrator

LandType: Forest

Pit Location: Pit dimensions: length 14 ft., width 15 ft., depth 5 ft.
(Attach diagram)

Reference: Wellhead

Footage from reference: 96 ft.

Direction from reference: 96 Degrees West of North

Depth To Ground Water: (Vertical distance from contaminants to seasonal high water elevation of ground water)	Less than 50 feet (20 points) 50 feet to 99 feet (10 points) Greater than 100 feet (0 points)	0
Wellhead Protection Area: (Less than 200 feet from a private domestic water source, or; less than 1000 feet from all other water sources)	Yes (20 points) No (0 points)	0
Distance To Surface Water: (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 200 feet (20 points) 200 feet to 1,000 feet (10 points) Greater than 1,000 feet (0 points)	0
	Ranking Score (TOTAL POINTS):	0

Form A

(85704)

Date Remediation Started: 8/24/98 Date Completed: 8/24/98

Remediation Method: (check all appropriate sections)
Excavation ☑ Approx. Cubic Yard 40
Landfarmed ☑ Insitu Bioremediation
Other LF Headspace 62 ppm

Remediation Location: (ie. landfarmed onsite, name and location of offsite facility)
Onsite ☑ Offsite

General Description Of Remedial Action:

The pit was excavated to remove gross petroleum contamination. The excavated material was placed into an onsite landfarm.

Ground Water Encountered: No

Final Pit: Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths)

Sample location SJ 27-4 #32-EXFL-01

Two samples were collected, one sample from the excavation bottom and the second sample was made up of 4 points from each excavation wall.

Sample depth 5 feet

Sample date 8/29/98 Sample time 7:00

Sample Result

Benzene (ppm) <0.050

Total BTEX (ppm) <0.050

Field Headspace (ppm)

TPH (ppm) <2.0

Ground Water Sample: No

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

DATE 10-1-99 Rev

SIGNATURE

PRINTED NAME AND TITLE Mark Harvey for Williams Field Services

Form B

Environmental Services
P.O. Box 58900
Salt Lake City, UT 84158-0900

Pit Closure and Retirement Addendum- Risk Assessment

Any residual contamination remaining at the San Juan 27-4 #32 poses low risk to human health and the environment. This conclusion is based in part on the information below:

Toxicity Information

Toxicity values for TPH have not been established due to the variability of the chemical makeup of TPH. Normally, the toxicity is based on the toxicity of the particular constituents of concern which may be present and are evaluated based on health-based standards. The most common constituents examined include benzene, ethylbenzene, toluene, and xylene.

In the absence of constituents of concern or when the concentrations of the constituents of concern are negligible, the acceptable level of TPH is established by considering the following:

- No liquid product should remain in the soil
- The TPH should not harm vegetation
- The TPH concentrations should not create an odor nuisance
- Hydrocarbon vapors which may emanate from the impacted soil should not generate harmful or explosive vapors
- Site monitoring should indicate that TPH levels are stable or declining

While residual TPH and / or BTEX contamination may exist at this site, excavation activities were suspended based on encountering bedrock or production equipment which limited continued safe excavation. Based on the analysis of the soil confirmation sample and the site conditions, closure of this site is warranted for the following reasons:

1. Soils which exhibited high levels of TPH and BTEX have been removed.
2. Residual TPH concentrations are below levels which would be problematic based on the criteria above.
3. Discharge has been eliminated and a steel tank installed to prevent any future release to soils.
4. Depth to groundwater is estimated at greater than 100'.
5. Vertical migration of contamination is limited due to bedrock and/or the low vertical hydraulic conductivity of underlying soils.
6. TPH concentrations will not increase and are likely to degrade over time in-situ.

Since there are no nearby receptors or domestic water sources, this site poses little risk to human health and the environment. Closure is justified based on the relatively low total petroleum hydrocarbon (TPH) concentration and the fact that benzene, toluene, ethylbenzene, and xylene meet applicable closure criteria. Additional information may be found in the Technical Background Document titled: *Risk Based Closure of Unlined Surface Impoundment Sites, San Juan Basin, New Mexico.*

PIT RETIREMENT FORM

85704

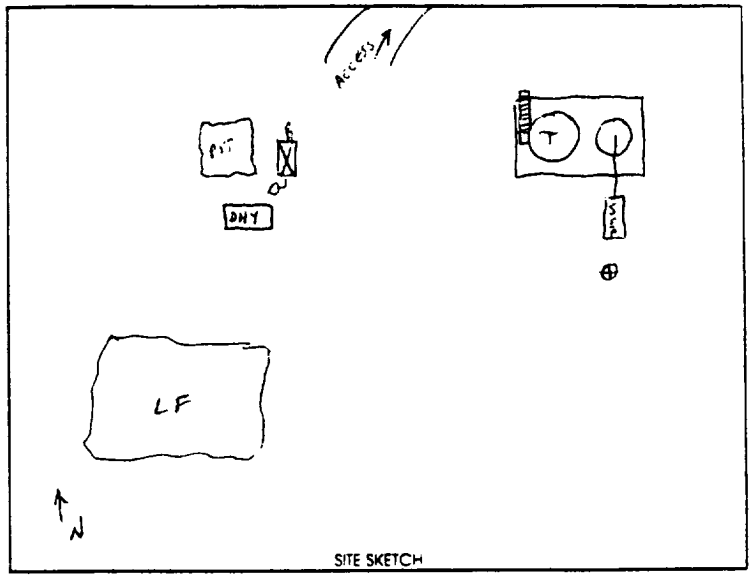
Date: 8/24/98 Weather MOSTLY SUNNY ~80°

Well Name SJ 27-4 # 32MV Operator BURLINGTON Sec 23 T 27N R 4W UL D

Land Type: (BLM) STATE FEE INDIAN (FOREST) County RIO ARRIBA

One Call Made (505-765-1234)? (Y) N

Line Marking Evident? (Y) N



SITE SKETCH

Pit Location:

Reference Wellhead X Other

Distance from: 96'

Direction: 96 Degrees E N X

of

X W S

Starting Pit Dimensions NA x TANK x SET

Final Pit Dimensions 14' x 15' x 5'

Organic Vapor Readings: Start

@ 2'

@ 4'

@ ~~6'~~ 5'

@ 8'

@

@

Soil Description: SAND

SAND + BROKEN SS

" "

SANDSTONE BEDROCK

Well Proximity To: Residence, Domestic Water Well, Stock Well NONE

Arroyo, Wash, Lake, Stream STOCK POND ~200 YDS NORTH

Estimated or Known Distance to Ground Water 75-100'

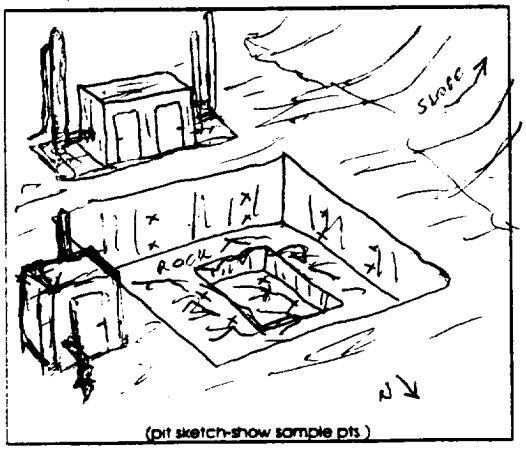
Source of Backfill (if other than processed material

Samples collected: Type Progress: Verification: ID 27-4#32-V-EX FL-01 (soil) / water

Progress: Verification: ID 27-4#32-V-EX WA-01 (soil) / water

Progress: Verification: ID soil / water

Sample sent to Lab Via: Courier Hand Carried Other Preservative: ICE Other



(pit sketch-show sample pts)

Comments: SET UP & AWAIT WATER TRUCK TO PULL TANK CONTENTS — MOVE TANK & PULL LINER — EXCAVATE SOIL WHICH IS HYDROCARBON STAINED — HIT BROKEN ROCK — BEDROCK @ 5' — LAID FARM MATERIAL SOUTH OF PIT — TOO ROCKY TO SHRED —

Soil Shipped to: ON-SITE/LF

Prepared by: M. [signature]

Q W A L L A B O R A T O R I E S, I N C.

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

LABORATORY REPORT: **REFERENCE #:** 9809139

SENT TO: ***WILLIAMS FIELD SERVICE-MS4JI***
P.O. BOX 58900
SALT LAKE CITY, UTAH 84108
MARK HARVEY
PROJECT: 98 PIT REMEDIATION (CRZ)

DATE REPORTED: 09/08/98
DATE COLLECTED: **08/26/98**
DATE RECEIVED: **09/02/98**

Reference Fraction:9809139-31A
Sample ID: CRZ/27-4#32 V-EXWA-01 / 85704
Sample Matrix: SOIOL
Sample Date Collected: **08/26/9807:00:00**

TEST	METHOD	RESULT	UNITS	DL	ANALYZED	BY
TPH	SW846-8015	ND	MG/KG	2.0	09/05/98	SKW
BTEX	SW846 8021			3.0		
BENZENE		ND	MG/KG	0.050	09/05/98	JLO
TOLUENE		ND	MG/KG	0.050	09/05/98	JLO
ETHYLBENZENE		ND	MG/KG	0.050	09/05/98	JLO
TOTAL XYLENES		ND	MG/KG	0.050	09/05/98	JLO
BFB (SURROGATE)		87	125	75		

ND=NONE DETECTED
DL=DETECTION LIMIT
SU=STANDARD UNITS
B=DETECTED IN METHOD BLANK

APPROVED BY: _____
TERRY KOESTER
LABORATORY DIRECTOR

QWAL LABORATORIES, INC.

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

LABORATORY REPORT: **REFERENCE #:** 9809139

SENT TO: *WILLIAMS FIELD SERVICE-MS4JI*
P.O. BOX 58900
SALT LAKE CITY, UTAH 84108
MARK HARVEY
PROJECT: 98 PIT REMEDIATION (CRZ)

DATE REPORTED: 09/08/98
DATE COLLECTED: 08/27/98
DATE RECEIVED: 09/02/98

Reference Fraction:9809139-35A
Sample ID: CRZ/27-4#152 V-EXFL-01 / 85793
Sample Date Collected: **08/27/9808:00:00**
Sample Matrix: SOIL

TEST	METHOD	RESULT	UNITS	DL	ANALYZED	BY
TPH	SW846-8015	10.1	MG/KG	2.0	09/05/98	SKW
BTEX	SW846 8021			3.0		
BENZENE		ND	MG/KG	0.050	09/06/98	JLO
TOLUENE		ND	MG/KG	0.050	09/06/98	JLO
ETHYLBENZENE		ND	MG/KG	0.050	09/06/98	JLO
TOTAL XYLENES		ND	MG/KG	0.050	09/06/98	JLO
BFB (SURROGATE)		84	125	75		

ND=NONE DETECTED
DL=DETECTION LIMIT
SU-STANDARD UNITS
B=DETECTED IN METHOD BLANK

APPROVED BY:
TERRY KOESTER
LABORATORY DIRECTOR

QWAL LABORATORIES, INC.

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

LABORATORY REPORT: **REFERENCE #:** 9809139

SENT TO: *WILLIAMS FIELD SERVICE-MS4JI*
P.O. BOX 58900
SALT LAKE CITY, UTAH 84108
MARK HARVEY
PROJECT: 98 PIT REMEDIATION (CRZ)

DATE REPORTED: 09/08/98
DATE COLLECTED: 08/30/98
DATE RECEIVED: 09/02/98

Reference Fraction:9809139-04A
Sample ID: CRZ/27-4#32 V-LF-01 / 85704
Sample Matrix: SOIL
Sample Date Collected: **08/30/9812:33:00 MS62**

TEST	METHOD	RESULT	UNITS	DL	ANALYZED	BY
TPH	SW846-8015	66.2	MG/KG	2.0	09/04/98	SKW

ND=NONE DETECTED
DL=DETECTION LIMIT
SU=STANDARD UNITS
B=DETECTED IN METHOD BLANK

APPROVED BY: _____
TERRY KOESTER
LABORATORY DIRECTOR