State of New Mexico
Energy, Minerals and Natural Resources Department

Rick Bishop LF OK

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

MAR 2002

PIT REMEDIATION AND CLOSURE REPORT

Operator: 3 - TEC Telephone: (801) 584-6361

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

WellName: NM Federal N #4E (34867)

Location: Unit or Qtr/Qtr ~~See~~ NW/NW Sec 7 T 30N R 12W County San Juan

PitType Dehydrator

LandType: BLM

Pit Location: Pit dimensions: length 16 ft., width 17 ft., depth 8 ft.
(Attach diagram)

Reference: Wellhead

Footage from reference: 153 ft.

Direction from reference: 198 Degrees East 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)	10
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):	10

Form A

(34867)

Date Remediation Started: 11/16/00 Date Completed:

Remediation Method: (check all appropriate sections) Excavation ☐ Approx. Cubic Yard 81

Landfarmed ☐ Insitu Bioremediation ☐

Other Landfarmed soil after mechanical aeration.

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. Encountered BEDROCK at 11'. The excavated material was mechanically aerated and placed into an onsite landfarm.

Ground Water Encountered: 0

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

Sample location NM FED N#4E-V-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 11'

Sample date 11/16/00 Sample time 17:14

Sample Result

Benzene (ppm) 12.9

Total BTEX (ppm) 391.6

Field Headspace (ppm)

TPH (ppm) 1190

Ground Water Sample: 0

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

DATE 12-20-01

SIGNATURE [signature]

PRINTED NAME AND TITLE Mark Harvey for Williams Field Services Proj. Coordinato

Form B

PIT ASSESSMENT FORM

AssessDate: 11-16-00 **Meter:** 34867

Well Name: NM FEDERAL N #4E Un NW/NW S 7 T 30N R 12W **County:** SAN JUAN

Operator: 3 TEC

Pit Type: DEHY **Land Type:** _____

Pit Information:

Reference: WELLHEAD

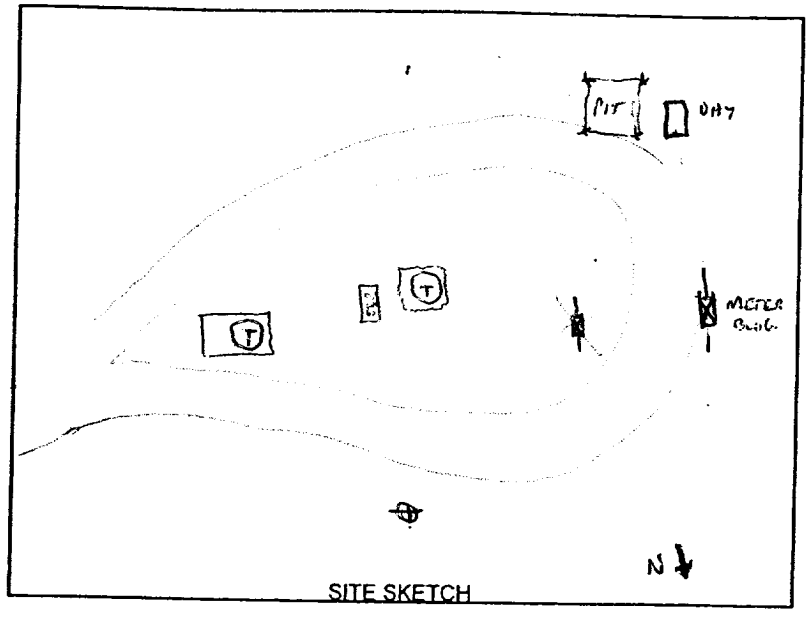
Distance: 153

Degrees: 198 E of N

Starting Pit Dimensions: 14 X 14 X 1/2 ft.

16 x 17 x 11

Ground Water Encountered? NO ☐



Ranking Information:

Depth To Ground Water: ☐ <50 ft ☒ >50 ft <100 ft ☐ >100 ft

Wellhead Protection Area: <200 ft from private domestic source, or; <1,000 ft from all other sources ☐ Yes ☒ No

Distance To Surface Water: ☐ <200 ft ☐ >200 ft <1,000 ft ☒ >1,000 ft

Sampling Information:

GeneralDescription: PIT HAS BEEN FILLED IN W/ SEDIMENT — EXCAVATE SANDY MATERIAL TO ~ 8' WHERE ~~SANDSTONE~~ ROCK ENCOUNTERED — SAND CONTINUES TO SLOUGH INTO EXCAVATION FROM SIDEWALLS — PULL BACK MATERIAL ON EXCAVATION RIM — BEDROCK PREVENTS FURTHER DEPTH ALTHOUGH BEDROCK IS STAINED W/ HYDRO CARBON ODOR — SIDEWALLS CLEAN — SHRED & LANDFARM SOIL —

SampleLocation: _____

Sample ID: NM FED N #4E-V-EXFL-01 NM FED N #4E-V-EXWA-01

SampleTime: _____

SamplerName: M. HARVEY

Sample Headspace (ppm): _____

Prepared By: M. Harvey Preparation Date: 11-16-00

Ready For Closure? ☐

Environmental Services
187 CR 4980
Bloomfield, NM 87413

Pit Closure and Retirement Addendum- Risk Assessment

The sample analyzed for confirmation at the **NM Federal N #4E** exhibited slightly elevated levels of total petroleum hydrocarbons (TPH) and / or BTEX. Toxicity information indicates that such low levels pose little 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 particular constituents of concern that may be present and which 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 low, 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

Environmental and Site Conditions

Based on an evaluation of topography, this site is believed to have ground water greater than 100' below ground surface. Due to the immobility of these types of contaminants through soil and a lack of continuous transporting mechanisms, it is very likely that the residual contamination in the pit will degrade in the short term under existing conditions, or certainly during the life of the producing well. Observations and data collected from other sites suggests that contaminant concentrations would diminish vertically and likely be less than 10 ppm within the next 4 - 10 feet of *soil* depth. Notwithstanding, bedrock was discovered at 3 1/2' on the pit bottom. This condition retards vertical migration of contaminants and serves to significantly limit potential groundwater impact.

While residual TPH and/or BTEX may exist at this site, closure of this site is warranted for the following reasons:

1. The majority of soils which exhibited high levels of TPH and BTEX have been removed.
2. Residual TPH concentrations are below levels considered 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 50'.
5. Vertical migration of contamination is limited due to bedrock and/or the low vertical hydraulic conductivity of underlying soils.
6. TPH / BTEX concentrations will not increase and will likely degrade over time from natural processes occurring in-situ.
7. Further excavation at the site is impractical due to bedrock.

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 all closure criteria cannot be practically attained. Additional information may be found in the Technical Background Document titled: *Risk Based Closure of Unlined Surface Impoundment Sites, San Juan Basin, New Mexico.*

QWAL LABORATORIES, INC.

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

LABORATORY REPORT: **REFERENCE #:** 0011536

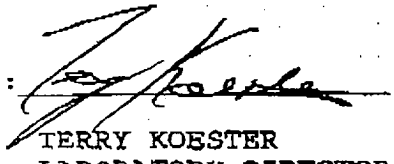
SENT TO: *WILLIAMS FIELD SERVICE*
295 CHIPETA WAY
SALT LAKE CITY, UTAH 84158
MARK HARVEY
PROJECT: TAA PITS

DATE REPORTED: **11/30/00**
DATE COLLECTED: **11/16/00**
DATE RECEIVED: **11/21/00**

Reference Fraction:0011536-05A
Sample ID: NM FED N#4E-V-EXWA-01 34867
Sample Date Collected: **11/16/0017:10:00**
Sample Matrix: SOIL

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
TPH-DRO	SW846-8015D	44	MG/KG	2.0	11/22/00	BEM
BTEX	OA1/8021B			3.0		
BENZENE		ND	MG/KG	0.050	11/28/00	MB
TOLUENE		0.385	MG/KG	0.050	11/28/00	MB
ETHYLBENZENE		0.171	MG/KG	0.050	11/28/00	MB
TOTAL XYLENES		8.99	MG/KG	0.050	11/28/00	MB
BFB (SURROGATE)		117	125	75		

ND=NONE DETECTED
PQL=PRACTICAL QUANTITAION LIMIT
SU=STANDARD UNITS
B=DETECTED IN METHOD BLANK

APPROVED BY: 

TERRY KOESTER
LABORATORY DIRECTOR

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 #:** 0011536

SENT TO: *WILLIAMS FIELD SERVICE*
295 CHIPETA WAY
SALT LAKE CITY, UTAH 84158
MARK HARVEY
PROJECT: TAA PITS

DATE REPORTED: 11/30/00
DATE COLLECTED: 11/16/00
DATE RECEIVED: 11/21/00

Reference Fraction:0011536-06A
Sample ID: NM FED N#4E-V-EXFL-01 34867
Sample Date Collected: 11/16/0017:14:00
Sample Matrix: SOIL

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
TPH-DRO	SW846-8015D	1190	MG/KG	2.0	11/23/00	BEM
BTEX	OA1/8021B			3.0		
BENZENE		12.9	MG/KG	0.50	11/28/00	MB
TOLUENE		87.8	MG/KG	0.50	11/28/00	MB
ETHYLBENZENE		18.9	MG/KG	0.50	11/28/00	MB
TOTAL XYLENES		272	MG/KG	0.50	11/28/00	MB
BFB (SURROGATE)		80	125	75		

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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 #:** 0012155

SENT TO: *WILLIAMS GAS PIPELINE*
187 COUNTY ROAD # 4980
BLOOMFIELD, NM 87413
MARK HARVEY
PROJECT: TAA PITS

DATE REPORTED: **12/12/00**
DATE COLLECTED: **12/04/00**
DATE RECEIVED: **12/06/00**

Reference Fraction:0012155-01A
Sample ID: NM FED N#4E-V-LF-01 34867
Sample Date Collected: **12/04/0010:45:00**
Sample Matrix: **SOIL**

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
TPH-DRO	SW846-8015D	83	MG/KG	2.0	12/08/00	BEM
BTEX	OA1/8021B			3.0		
BENZENE		ND	MG/KG	0.050	12/07/00	MB
TOLUENE		0.096	MG/KG	0.050	12/07/00	MB
ETHYLBENZENE		ND	MG/KG	0.050	12/07/00	MB
TOTAL XYLENES		0.952	MG/KG	0.050	12/07/00	MB
BFB (SURROGATE)		103	125	75		

ND=NONE DETECTED
PQL=PRACTICAL QUANTITAION LIMIT
SU=STANDARD UNITS
B=DETECTED IN METHOD BLANK

APPROVED BY:

TERRY KOESTER
LABORATORY DIRECTOR