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# **Project Summary**

#### Site Specific:

- **Company Name**: Duke Energy Field Services
- Facility Name: G-28 Loop-2 Natural Gas Gathering Pipeline
- Project Reference G-28 Loop-2 112002
- Company Contact: Paul Mulkey
- Site Location: WGS84: N32° 23' 00.03"; W103° 15' 58.84"
- Legal Description: Unit Letter B, (NW1/4 of the NE1/4), Section 21, T22S, R36E
- General Description: approximately 7.3-miles west-southwest (239.2°) of Eunice, NM
- Elevation: 3537-ft amsl Depth to Ground Water: ~165-ft
- Land Ownership: Millard Deck Estate Lessee: Larry Strain
- EPI Personnel: Technical Manager Pat McCasland

Project Consultant – John Good

Site Foreman – Morris Burkett

#### **Release Specific:**

- Product Released: Natural Gas & NGL
- Volume Released: ~250 bbl
   Volume Recovered: 200 bbl
- Time of Occurrence: Unknown Time of Discovery: 11:00 AM; 20-Nov-02
- **Release Source**: 20" steel NG pipeline; integrity lost due to internal corrosion; repaired by clamping with ultimate replacement of section.
- Initial Surface Area Affected: 4,837-ft<sup>2</sup>

### Remediation Specific:

- Final Vertical extent of contamination: 20-ft bgs; Remaining depth to ground water: 145-ft
- Water wells within 1000-ft: 0
   Surface water bodies within 1000-ft: 0
- NMOCD Site Ranking Index: 0 points (>100-ft to top of water table)
- Remedial goals for Soil < 65-ft bgs: TPH 5000 ppm; BTEX 50 ppm; Benzene – 10 ppm; Chlorides – 250 ppm
- RCRA Waste Classification: Exempt
- Remediation Option Selected: a) Excavation and disposal of contaminated soil above NMOCD remedial goals; b) analytical confirmation of bottom-hole and sidewall contaminant levels; c) backfill with clean caliche and final 3-ft layer of clean topsoil.
- Disposal Facility: Environmental Plus, Inc. Volume disposed of: 1960-yd<sup>3</sup>
- Project Completion Date: February 19, 2003
- Additional Commentary: None

## **1.0 Introduction & Background**

This report addresses the site investigation and remediation of the Duke Energy Field Services (DEFS) "G-28 Loop-2 112002" natural gas gathering line remediation site. On November 20, 2002, Environmental Plus, Inc. (EPI) was notified by DEFS regarding a newly discovered natural gas and associated natural gas liquid (NGL) release at this site. The initial C-141 Form submitted to the New Mexico Oil Conservation Division (NMOCD) on November 22, 2002 reports the release volume (NGL) as 250-bbl with 200-bbl recovered. EPI responded the day of the notification and commenced GPS delineation, photography, flow path containment and characterization of the site. The site consisted of a ~4,837 –ft<sup>2</sup> area with pooled NGL at the Point of Release (POR) and flowing along a dirt road extending east from the POR (*Plate 3, Attachments*). Remediation of this release site consisted of excavation and disposal of 1,960-yd<sup>3</sup> of contaminated soil at EPI's approved surface waste facility, soil analyses, backfilling and contouring of the excavation. Remediation of the site was completed on February 19, 2003.

The site is associated with the DEFS G-28 Loop-2 natural gas gathering pipeline. This release site is located in Unit Letter B, (NW<sup>1</sup>/<sub>4</sub> of the NE<sup>1</sup>/<sub>4</sub>), Section 21, T22S, R36E, N32°49'59.66" and W103°19'05.79". It is approximately 7.3-miles west-southwest (239.2°) of Eunice, NM. The property is owned by the Millard Deck Estate. A site location map, site topographical map and a detailed GPS site diagram are included in the Attachments as *Plates 1, 2 and 3*.

The natural gas and associated NGL release at this site was discovered and reported on November 20, 2002. The Initial NMOCD C-141 Form was submitted on November 22, 2002. The leak was the result of internal pipe corrosion. The pipeline was clamped and eventually replaced by DEFS personnel.

## 2.0 Site Description

#### 2.1 Geological Description

<u>The United States Geological Survey (USGS) Ground-Water Report 6, "Geology and</u> <u>Ground-Water Conditions in Southern Lea County, New Mexico," A. Nicholson and A.</u> <u>Clebsch, 1961</u>, describes the near surface geology of southern Lea County as "an intergrade of the Quaternary Alluvium (QA) sediments, i.e., fine to medium sand, with the mostly eroded Cenozoic Ogallala (CO) formation. Typically, the QA and CO formations in the area are capped by a thick interbed of caliche and generally overlain by sandy soil."

The release site is located in the Eunice Plain physiographic subdivision, described by Nicholson & Clebsch as an area "underlain by a hard caliche surface and is almost entirely covered by reddish-brown dune sand". The thickness of the sand cover ranges from 2-5 feet in most areas to as much as 20-30 feet in drift areas.

### 2.2 Ecological Description

The area is typical of the Upper Chihuahuan Desert Biome consisting primarily of hummocky sand hills covered with Harvard Shin Oak (*Querqus harvardi*) interspersed with Honey Mesquite (*Prosopis glandulosa*) along with typical desert grasses, flowering annuals and flowering perennials. Mammals represented, include Orrd's and Merriam's Kangaroo Rat, Deer Mouse, White Throated Wood Rat, Cottontail Rabbit, Black Tailed Jackrabbit, Mule Deer, Bobcat, Red Fox and Coyote. Reptiles, Amphibians, and Birds are numerous

and typical of area. A survey of Listed, Threatened, or Endangered species was not conducted.

#### 2.3 Area Ground Water

The unconfined ground water aquifer at this site is projected to be  $\sim 165$ -ft bgs based on water depth data obtained from the NM State Engineers Office data base. Ground water gradient in this area is generally to the east-southeast.

| Wate   | r Colum | nn Repo | ort - NM | 4 State | Engine | er Dat  | abase, 1 | 11-21-0 | 2      |
|--------|---------|---------|----------|---------|--------|---------|----------|---------|--------|
|        |         |         |          |         |        |         |          |         |        |
| Well   |         |         | 1        |         |        |         | Well     | Water   | Water  |
| Number | Tws     | Rng     | Sec      | Q       | Q      | Q       | Depth    | Depth   | Column |
| 763    | 22S     | 36E     | 1        | 3       | 2      | 2       | 265      | 137     | 128    |
| 727    | 225     | 36E     | 5        | 2       | 3      | 1       | 267      | 212     | 55     |
| 469    | 22S     | 36E     | 6        | 3       | 2      | 1       | 220      | 195     | 25     |
| 70     | 22S     | 36E     | 16       | 1       | 2      | 2       | 220      | 170     | 50     |
| 575    | 225     | 36E     | 27       | 4       | 3      |         | 198      | 160     | 38     |
| (Quart | ers are | : 1=NV  | V, 2=N   | IE, 3=5 | 5W, 4= | SE - bi | ggest to | smalles | st)    |

#### 2.4 Area Water Wells

All recorded wells are greater than 1000 horizontal feet from the site.

#### 2.5 Area Surface Water Features

No surface water bodies exist within 1000 horizontal feet of the site.

#### 3.0 NMOCD Site Ranking

Contaminant delineation and remedial work done at this site indicate that the chemical parameters of the soil and the physical parameters of the ground water were characterized consistent with the characterization and remediation/abatement goals and objectives set forth in the following New Mexico Oil Conservation Division (NMOCD) publications:

- Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993)
- Unlined Surface Impoundment Closure Guidelines (February 1993)

Acceptable thresholds for contaminants/constituents of concern (CoCs), i.e., TPH<sup>8015m</sup>, Benzene, and the mass sum of Benzene, Toluene, Ethyl Benzene, and total Xylenes (BTEX), was determined based on the NMOCD Ranking Criteria as follows:

- Depth to Ground water, i.e., distance from the lower most acceptable concentration to the ground water.
- Wellhead Protection Area, i.e., distance from fresh water supply wells.
- Distance to Surface Water Body, i.e., horizontal distance to all down gradient surface water bodies.

Based on the proximity of the site to protectable area water wells, surface water bodies, and depth to ground water from the lower most contamination, the NMOCD ranking score for the site is 0 points with the soil remedial goals highlighted in the Site Ranking table presented below.

| 1. Gro   | und Water                  | 2. Wellhea                                 | d Protection Area   | 3.   | Distance to Surface Water                    |
|--|----------------------------|--|---|--|--|
| Depth to 0<br>20   | GW <50 feet:<br>points     | If <1000' from <200' from priv             | n water source, or;<br>vate domestic water                        | <200   | ) horizontal feet: <i>20 points</i>          |
| Depth to GV<br>10  | V 50 to 99 feet:<br>points | sourc                                      | e: 20 poínts  | 20   | 00-1000 horizontal feet:<br><i>10 points</i> |
| Depth to G<br>0 p  | W >100 feet:<br>ooints     | lf >1000' from<br>>200' from priv<br>sourc | n water source, or;<br>vate domestic water<br>ce: <i>0 points</i> | >100   | 10 horizontal feet: <i>0 points</i>          |
| Ground Wa  | ater Score = 0             | Wellhead Pr                                | otection Score= 0   | S  | urface Water Score= 0                        |
| n 1930 - A. L. Mannath, ampro werenz an engran Postfold C. Sa Preto Parcathoram. | Site Ran                   | k (1+2+3) = 0 + 0                          | +0 = 0 points (for  | soil 0-6   | 65'bgs)                                      |
|  | Total Site Rank            | ing Score and A                            | cceptable Remedial G  | Goal Co  | oncentrations                                |
| Parameter  | 20 (                       | 0r >                                       | 10  | 1799 <b>199</b> -1977                            | 0  |
| Benzene <sup>1</sup>   | 10 թ                       | opm  | 10 ppm  | 4500-471-00-00 v v v v v v v v v v v v v v v v v | 10 ppm                                       |
| <b>BTEX</b> <sup>1</sup>   | 50 j                       | opm  | 50 ppm  | ******   | 50 ppm                                       |
| TPH  | 100                        | ppm  | 1000 ppm  |  | 5000 ppm                                     |

## 4.0 Subsurface Soil Investigation

During the initial excavation phase of the project the eastward extending flow path was excavated to a depth of 3-ft within the lateral confines of the sunken roadway, and the area near the POR was excavated to a depth of 12-ft bgs. Composite bottom and sidewall samples of both areas were taken on 12/10/02. Results of this sampling indicated that the flow path was adequately clear of contamination to justify closure (maximum TPH concentration of 651 mg/kg in the eastern portion). The 12-ft bottom of the POR excavation displayed a TPH concentration of 3,800 mg/kg. Although this level of contamination was below the 5,000 mg/kg remedial goal, all indications were that the release(s) at this site were historical in nature, and the possibility existed that the TPH contamination level could increase, rather than decrease, below the 12-ft level.

Based on the above assumption, one borehole was drilled in the bottom of the excavation near the POR. The borehole was extended to 30-ft bgs and sampled at the 15, 20, 25 and 30-ft intervals. As seen clearly in *Plate 6*, the TPH concentration did increase to 7,500 mg/kg at the 15-ft depth interval and then dropped down to 148 mg/kg at the 20-ft depth interval.

Based on the borehole sampling results, the POR excavation was extended to a depth of 20-ft and then composite sampled on 1/9/03. Results of this sampling indicated adequate contaminant removal to justify site closure.

## 5.0 Ground Water Investigation

The projected depth to ground water at this site is 165-ft bgs. Excavation of the site was to a maximum depth of 20-ft. Final CoC levels of the bottom-hole of the excavation were confirmed to be below detection levels for Benzene and BTEX. The TPH concentrations in the 20-ft bottom-hole and in the north, south and east sidewalls were all <100 ppm. The west sidewall retained a TPH

concentration of 275 ppm, still considerably less than the 5000 ppm remedial goal (*Plates 5 and 6*, *Attachments*). Chlorides and sulfates were below the respective 250 mg/kg and 600 mg/kg ground water standards throughout the site.

The excavation was backfilled with clean caliche and topsoil obtained from the property owner. Based on the removal the Constituents of Concern and adequate depth to ground water, there will be no need for further ground water investigation at this site.

## 6.0 Remediation Process

Remediation of the site commenced on November 20, 2002 and continued through February 19, 2002. Remedial activities at the site consisted of excavation and disposal of 1,960-yd<sup>3</sup> of NGL contaminated soil from the site. All contaminated soil removed from the site was disposed of in the NMOCD approved EPI land farm located south of Eunice, NM. The main POR excavation was backfilled up to 3-feet below surface level with clean caliche purchased from the property owner. The top 3-ft of the excavation was backfilled with clean topsoil obtained on-site to provide an adequate root zone.

The excavations (POR and/or Flow Path) were composite sampled (bottom-hole and sidewalls) on December 10, 2002 and January 9, 2003. Results of the analyses (*Plates 5 and 6, Attachments*) indicate that remedial goals have been achieved in all areas of the excavation.

The surface damaged area encompasses  $38,350-\text{ft}^2$  (*Plate 3 – Attachments*). This area will be evaluated periodically for the necessity of re-seeding or erosion control.

#### 7.0 Closure Justification

This report documents successful implementation of the Remediation Plan approved by NMOCD for this release site. Soil contaminated above acceptable CoC remedial concentrations was excavated and removed from the location. Disposal of RCRA exempt contaminated soils was at the Environmental Plus, Inc. approved land farm. The excavation was backfilled with clean caliche and topsoil and properly contoured to provide adequate drainage. Based on the data presented in this report, Environmental Plus, Inc., on behalf of Duke Energy Field Services, requests that the NMOCD require "no further action" at this site.

# **ATTACHMENTS**

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**Duke Energy Field Services** 

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DEFS G-28 Loop 2 112002



Duke Energy Field Services

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|                         |                                   | Duke                     | Enerav Field Serv                      | ices - O         | 3-28 Loc           | op-2 11          | 2002 - E          | xcavati        | on Sam        | pling Re         | esults           |              |           |      |
|-------------------------|-----------------------------------|--------------------------|--|------------------|--------------------|------------------|-------------------|----------------|---------------|------------------|------------------|--------------|-----------|------|
| Bold                    | highlighted cells indicate        | values in e              | excess of the NMOCD remed              | al action gu     | uideline threa     | sholds: TPH      | = ,5000 mg        | Kg; Benzen     | e = 10 mg/K   | g; BTEX = 5      | 0 mg/Kg; Cl      | = 250 ppm;   | SO4 = 600 | ppm  |
| Sample                  | Excavation Sampling               | Depth                    | SAMPLE ID#                             | GRO <sup>3</sup> | DRO⁴               | трн <sup>5</sup> | BTEX <sup>6</sup> | Benzene        | Toluene       | Ethyl<br>Benzene | Total<br>Xylenes | <del>ت</del> | SQ₄       | Hd   |
| nale                    | AIGa                              | (ft - bas <sup>1</sup> ) |  | mg/Kg            | mg/Kg              | mg/Kg            | mg/Kg             | mg/Kg          | mg/Kg         | mg/Kg            | mg/Kg            | mg/Kg        | mg/Kg     |      |
| 12/10/02                | BottomHole Comp                   | 12-ft                    | SDG28L2121002BHC-12                    | 1910             | 1911               | 3821             | 76.529            | 0.489          | 8.640         | 11.300           | 56.100           | 160          | 111.0     | 6.68 |
| 12/10/02                | South SideWall Comp               | 10-12-ft                 | SDG28L2121002SSWC-12                   | 10               | 62                 | 72               | 0.277             | 0.005          | 0.081         | 0.037            | 0.154            |              |           |      |
| 12/10/02                | North SideWall Comp               | 10-12-ft                 | SDG28L2121002NSWC-12                   | 10               | 10                 | 20               | 0.103             | 0.005          | 0.014         | 0.014            | 0.070            |              |           |      |
| 12/10/02                | East SideWall Comp                | 10-12-ft                 | SDG28L2121002ESWC-12                   | 10               | 90                 | 20               | 0:030             | 0.005          | 0.005         | 0.005            | 0.015            |              |           |      |
| 12/10/02                | West SideWall Comp                | 10-12-ft                 | SDG28L2121002WSWC-12                   | 10               | 51                 | 61               | 0:030             | 0.005          | 0.005         | 0.005            | 0.015            |              |           |      |
| 12/10/02                | West FP Bottom Hole               | 3-ft                     | SDG28L2121002FPWBHC                    | 10               | 397                | 407              | 0.462             | 0.005          | 0.036         | 0.064            | 0.357            | 144          | 148.0     | 6.70 |
| 12/10/02                | West FP South Sidewall            | 3-ft                     | SDG28L2121002FPWSSW                    | 10               | 53                 | 63               | 0:030             | 0.005          | 0.005         | 0.005            | 0.015            |              |           |      |
| 12/10/02                | West FP North Sidewall            | 3-ft                     | SDG28L2121002FPWNSW                    | 10               | 40                 | 50               | 0.034             | 0.005          | 0.005         | 0.005            | 0.019            |              |           |      |
| 12/10/02                | Middle FP Bottom Hole             | 3-ft                     | SDG28L2121002FPMBHC                    | 10               | 146                | 156              | 0:030             | 0.005          | 0.005         | 0.005            | 0.015            | 192          | 34.5      | 6.97 |
| 12/10/02                | Middle FP South Sidewall          | 3-ft                     | SDG28L2121002FPMSSW                    | 10               | 18                 | 28               | 0:030             | 0.005          | 0.005         | 0.005            | 0.015            |              |           |      |
| 12/10/02                | Middle FP North Sidewall          | 3-ft                     | SDG28L2121002FPMNSW                    | 10               | 12                 | 22               | 0.053             | 0.005          | 0.005         | 0.008            | 0.035            |              |           |      |
| 12/10/02                | East FP BottomHole                | з-ft                     | SDG28L2121002FPEBHC                    | 11               | 640                | 651              | 0:030             | 0.005          | 0.005         | 0.005            | 0.015            | 192          | 29.2      | 7.00 |
| 12/10/02                | East FP South Sidewall            | 3-ft                     | SDG28L2121002FPESSW                    | 10               | 273                | 583              | 0:030             | 0.005          | 0.005         | 0.005            | 0.015            |              |           |      |
| 12/10/02                | East FP North Sidewall            | 3-ft                     | SDG28L2121002FPENSW                    | 10               | 125                | 135              | 0:030             | 0.005          | 0.005         | 0.005            | 0,015            |              |           |      |
| 12/19/02                | BottomHole Comp                   | 15-ft                    | SDG28L2121902BHC-15                    | 1900             | 5600               | 127500           | 146.219           | 0.819          | 124.200       | 23.000           | 198,200          |              |           |      |
| 1/3/03                  | BoreHole (Center Hole)            | 20-ft                    | SDG28L21302CBH-20                      | 10               | 138                | 148              | 0:030             | 0.005          | 0.005         | 0.005            | 0.015            | 112          | 408.0     |      |
| 1/3/03                  | BoreHole (Center Hole)            | 25-ft                    | SDG28L21302CBH-25                      | 10               | 10                 | 20               | 0:030             | 0.005          | 0.005         | 0.005            | 0.015            | 80           | 73.1      |      |
| 1/3/03                  | BoreHole (Center Hole)            | 30-ft                    | SDG28L2121902BHC-30                    | 10               | 22                 | 32               | 0:030             | 0.005          | 0.005         | 0.005            | 0.015            | 96           | 91.4      |      |
| 1/9/03                  | BottomHole Comp                   | 20-ft                    | SDG28L2010903BHC-20                    | 10               | 22                 | 32               | 0:030             | 0.005          | 0.005         | 0.005            | 0.015            | 128          | 77.9      |      |
| 1/9/03                  | South SideWall Comp               | 15-20-ft                 | SDG28L2010903SSWC                      | 10               | 88                 | 86               | 0:030             | 0.005          | 0.005         | 0.005            | 0.015            | 96           | 24.4      |      |
| 1/9/03                  | East SideWall Comp                | 15-20-ft                 | SDG28L2010903NSWC                      | 10               | 32                 | 42               | 0:030             | 0.005          | 0.005         | 0.005            | 0.015            | 112          | 246.0     |      |
| 1/9/03                  | North SideWall Comp               | 15-20-ft                 | SDG28L2010903ESWC                      | 10               | 38                 | 48               | 0:030             | 0.005          | 0.005         | 0.005            | 0.015            | 128          | 49.4      |      |
| 1/9/03                  | West SideWall Comp                | 15-20-ft                 | SDG28L2010903WSWC                      | 10               | 265                | 275              | 0:030             | 0.005          | 0.005         | 0.005            | 0.015            | 112          | 122.0     |      |
| <sup>1</sup> bgs = belc | w ground surface <sup>3</sup> GRO | - Gasoline               | Range Organics (Detection Limi         | t = 10 mg/Kg     | ) <sup>4</sup> DRC | 0 - Diesel Rai   | nge Organics      | (Detection Lir | nit = 10 mg/K | (6               |                  |              |           |      |
| <sup>5</sup> TPH - Tot  | al Petroleum Hydrocarbon ((       | 3RO+DRO)                 | <sup>6</sup> BTEX = Sum of CoC's (Dete | ction Limits     | = 0.005 mg/K       | (g; 0.015 mg/    | Kg)               |                |               |                  |                  |              |           |      |
| Note: Don               | orted detertion limite are cor    |                          | minimus" voluce and are includ         | Ind in the TD    | H and BTEV         |                  | ò                 |                |               |                  |                  |              |           |      |

## Plate 4: Soil Analytical Data Table

DEFS G-28 Loop 2 112002



#### Plate 5: Soil Analytical Data Bar Charts





# Laboratory Analytical Data



PHONE (915) 673-7001 . 2111 BEECHWOOD . ABILENE, TX 79603

PHONE (505) 393-2326 . 101 E MARLAND . HOBBS, NM 88240

ANALYTICAL RESULTS FOR ENVIRONMENTAL PLUS, INC. ATTN: JOHN GOOD P.O. BOX 1558 EUNICE, NM 88231 FAX TO: (505) 394-2601

Receiving Date: 12/10/02 Reporting Date: 12/13/02 Project Owner: DUKE ENERGY FIELD SERVICES Project Name: G28 LOOP2 112002 Project Location: UL-B SECTION 21 T22S R38E

#### Sampling Date: 12/10/02 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: BC Analyzed By: BC

| LAB NO. | SAMPLE ID | GRO<br>(C <sub>6</sub> -C <sub>10</sub> )<br>(mg/Kg) | DRO<br>(>C <sub>10</sub> -C <sub>28</sub> )<br>(mg/Kg) | BENZENE<br>(mg/Kg) | TOLUENE<br>(mg/Kg) | ETHYL<br>BENZENE<br>(mg/Kg) | TOTAL<br>XYLENES<br>(mg/Kg) |
|---------|-----------|--|--|--------------------|--------------------|-----------------------------|-----------------------------|
|         |           |  |  |                    |                    |                             |                             |

| ANALYSIS DATE:               | 12/11/02 | 12/11/02 | 12/11/02 | 12/11/02                               | 12/11/02 | 12/11/02 |
|------------------------------|----------|----------|----------|--|----------|----------|
| SDG28L2121002BHC-12          | 1910     | 6400     | 0.489    | 8.64                                   | 11.3     | 56.1     |
| SDG28L2121002SSWC-12         | <10.0    | 61.9     | <0.005   | 0.081                                  | 0.037    | 0.154    |
| SDG28L2121002NSWC-12         | <10.0    | <10.0    | <0.005   | 0.014                                  | 0.014    | 0.070    |
| SDG28L2121002ESWC-12         | <10.0    | 59.5     | <0.005   |  | <0.005   |          |
| SDG28L2121002WSWC-12         | <10.0    | 51.2     |          |  |          |          |
| SDG28L2121002FPWBHC          |          | 397      | < 0.005  |  | 0.064    |          |
| H7300-7 SDG28L2121002FPWSSW  |          | 52.6     | <0.005   | < 0.005                                | < 0.005  | <0.015   |
| H7300-8 SDG28L2121002FPWNSW  | <10.0    | 39.7     | <0.005   | < 0.005                                | <0.005   | 0.019    |
| H7300-9 SDG28L2121002FPMBHC  | <10.0    | 148      | <0.005   | < 0.005                                | < 0.005  | <0.015   |
| H7300-10 SDG28L2121002FPMSSW | <10.0    | 17.5     | <0.005   | <0.005                                 | <0.005   | <0.015   |
| H7300-11 SDG28L2121002FPMNSW | <10.0    | 11.7     | <0.005   | <0.005                                 | 0.008    | 0.035    |
| H7300-12 SDG28L2121002FPEBHC | 11.4     | 640      | <0.005   | <0.005                                 | < 0.005  | < 0.015  |
| H7300-13 SDG28L2121002FPESSW | <10.0    | 573      | <0.005   | <0.005                                 | < 0.005  |          |
| H7300-14 SDG28L2121002FPENSW | <10.0    | 125      | < 0.005  |  |          | -        |
|                              |          | 2.02 C   |          | ······································ |          |          |
| Quality Control              | 802      | 857      | 0.098    | 0.094                                  | 0.091    | 0.267    |
| True Value QC                | 800      | 800      | 0.100    | •                                      | 0.100    |          |
| % Recovery                   | 100.0    | 107      | 97.5     |  | 90.6     | 88.9     |
| Relative Percent Difference  | 10.2     | T        |          |  | 0.2      | 0.8      |

METHODS: TPH GRO & DRO - EPA SW-846 8015 M; BTEX - SW-846 8260.

Ph. D.

Date

#### H7300A.XLS

PLEASE NOTE: Ltability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profile incurried by client, its subsidiaries, affiliates or successors ansing out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.



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

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS. NM 88240

ANALYTICAL RESULTS FOR ENVIRONMENTAL PLUS, INC. ATTN: JOHN GOOD P.O. BOX 1558 EUNICE, NM 88231 FAX TO: (505) 394-2601

Receiving Date: 12/10/02 Reporting Date: 12/16/02 Project Owner: DUKE ENERGY FIELD SERVICES Project Name: G28 LOOP2 112002 Project Location: UL-B SECTION 21 T22S R36E Sampling Date: 12/10/02 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: BC Analyzed By: AH

|   |                     | СГ         | SO₄      | рН       |
|---|---------------------|------------|----------|----------|
| LAB NUMBER  | R SAMPLE ID         | (mg/Kg)    | (mg/Kg)  | (s.u.)   |
| ANALYSIS DA   | <b>NTE</b>          | 12/13/02   | 12/13/02 | 12/13/02 |
| H7300-1   | SDG28L2121002BHC-12 | 160        |          | 6.68     |
| H7300-6   | SDG28L2121002FPWBHC | 144        | 148      | 6.70     |
| H7300-9   | SDG28L2121002FPMBHC |            | 34.5     | 6.97     |
| H7300-12  | SDG28L2121002FPEBHC |            | 29.2     | 7.00     |
|   |                     |            |          |          |
| Quality Contro  |                     | 970        | 50.20    | 6.75     |
| True Value Q  | C                   | 10(        | 50.00    | 7.00     |
| % Recovery  |                     |            | 100      | 96.4     |
| <b>Relative Perce</b>   | ent Difference      |            | 0.7      | 0.1      |
| and the second |                     |            |          |          |
| METHODS: 6  | 600/4-79-020        | 4500-CI'B* | 375.4    | 150.1    |

\*Standard Methods

Note: Analyses performed on 1:4 w:v aqueous extracts.

emist

d-16-02

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remady for any claim artsing, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negigence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service, in particular shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliated or discussions arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated masons or otherwise.

| Card na<br>01 East Marland<br>505-393-2326 | Laborator<br>Hobbs NM 8824<br>ax 505-393-2476 | ties n                      | C                |              |              |            | 91      | E<br>5-67           | 3ee<br>73-7 | chw<br>7001 | ood       | AL<br>ax 9   | ilen              | e TX 796<br>673-7020   | <b>30</b>                    |              | ·         |                |                        |      |           |       |           |               |          |          |          |
|--|---|-----------------------------|------------------|--------------|--------------|------------|---------|---------------------|-------------|-------------|-----------|--------------|-------------------|--|------------------------------|--------------|-----------|----------------|------------------------|------|-----------|-------|-----------|---------------|----------|----------|----------|
| Company Name                               | Environm                                      | ental Plus.                 | inc:             |              | -            |            | 17.     | 2.2                 | a. 19       |             |           | BI           | To                |  | ari vi ci re<br>Xi uzi strad |              |           |                | AN                     |      | 751       | R     | OU        | EST           |          | <u> </u> |          |
| Project Manager                            | John Goo                                      | d                           |                  |              |              |            | 1       |                     | and the     |             |           |              | 201 <b>2-00</b> 1 |  |                              | 0.927        | GATLIN.   | T              |                        |      | T         |       |           |               |          |          |          |
| Address                                    | P.O. BOX                                      | 1558                        |                  |              |              |            | 1       |                     |             |             |           |              |                   |  | ••••                         | T            |           |                |                        |      |           |       |           |               |          |          |          |
| City, State, Zip                           | Eunice No                                     | ew Mexico I                 | 882              | 31           | ÷.           |            | ł       |                     |             |             |           |              | llı.              |  |                              | 1            |           | 1              | 1                      | ŀ    |           | L     |           |               |          |          |          |
| Phone#/Fax#                                | 505-394-3                                     | 3481 / 505-                 | 394              | -26          | 01           |            |         |                     | <u> </u>    | 2<br>(12)   | 5         | 1            |                   |  |                              |              |           | 1              |                        |      | 1         |       |           |               |          |          |          |
| Project #/Owner                            | Duke Ene                                      | rav Field S                 | ervi             | CØS          |              |            | 1       | -                   |             |             |           | Ę            |                   |  |                              |              |           |                |                        |      |           |       | 5         |               |          |          |          |
| Project Name                               | G28 Loop                                      | 2 112002                    |                  |              |              | -          | t       |                     |             |             | ÷.        | 29           | m.                | a de la composición d<br>Recentra de la composición de la composic | · · ·                        |              |           |                |                        |      |           | 1     |           |               |          |          |          |
| Project Location                           | UL-B Sec                                      | tion 21 T22                 | SR               | 36           |              | · · · ·    | 1       |                     |             |             |           | <u>6</u> 473 | đ.                |  |                              |              | 1         |                | ľ                      |      |           | L     |           |               |          |          |          |
| Sampler Name                               | John Goo                                      | d                           |                  | 1            | , i e        |            |         |                     |             |             |           | ·            |                   |  |                              |              | 1         |                |                        |      |           | 1     |           |               |          |          |          |
| ·····                                      |   |                             |                  | T            | 1            | · · · · ·  | MA      | TRU                 | (           | 5           | PR        | ESE          | RV.               | SAM  | LING                         |              |           |                |                        |      |           |       |           |               |          |          | ·        |
| LAB I.D.                                   | SAMPLE I.                                     | D.                          | (G)RAB OR (C)OMP | # CONTAINERS | GROUND WATER | WASTEWATER | SOIL    | CRUDE OIL           | SLUDGE      | OTHER:      | ACID/BASE | ICE/COOL     | OTHER             | DATE   | TIME                         | BTEX 8021B   | TPH BOISM | CHLORIDES (CI) | SULFATES (SQ.)         | P    |           |       |           |               |          |          |          |
| N7307-1 1                                  | SDG28L2121002BH                               | IC-12                       | C                | 1            |              |            | X       |                     | f -         | 1           | 2         | X            |                   | 10-Dec   | 9:30                         | X            | X         | X              | X                      | X    |           |       |           |               |          |          |          |
| -> 2                                       | SDG28L212100288                               | WC-12                       | C                | 1            | 1.1          |            | X       |                     |             |             | 4         | X            | ·                 | 10-Dec   | 9:35                         | X            | X         | 1              |                        |      | i         |       |           | 1.1           |          |          |          |
| -3 3                                       | SDG28L2121002N8                               | WC-12                       | C                | 1            |              |            | X       |                     | I.          | Γ           |           | X            |                   | 10-Dec   | 9:40                         | X            | X         |                |                        |      | ŀ         | 1     |           |               | · · ·    |          |          |
| -44  | 8DG28L2121002ES                               | WC-12                       | C                | 1            | 1            |            | X       |                     |             |             |           | X            | s.<br>S           | 10-Dec   | 9:45                         | X            | X         |                |                        | 1.   | 1         |       | $\square$ |               |          |          |          |
| _5 5                                       | SDG28L2121002W8                               | SWC-12                      | C                | 1            | 10 ×         |            | X       |                     |             | ,           |           | X            | 1                 | 10-Dec   | 9:50                         | X            | X         | 1.             |                        |      |           |       |           |               | <i>"</i> |          |          |
| 6  | SDG28L2121002FP                               | WBHC                        | C                | 1            |              |            | X       |                     |             |             |           | X            |                   | 10-Dec   | 9:55                         | X            | X         | X              | X                      | X    | 4 ju -    |       |           |               |          |          |          |
| -7 7                                       | SDG28L2121002FP                               | WSSW                        | C                | 1            |              |            | X       |                     | 1           |             | ľ.,       | X            |                   | 10-Dec   | 10:00                        | X            | X         |                |                        | 5    |           | ) j í |           |               |          | ľ        |          |
| -6 8                                       | SDG28L2121002FP                               | WNSW                        | C                | -1           | T            |            | X       |                     |             | 1.4         |           | X            |                   | 10-Dec   | 10:05                        | X            | X         | T              |                        |      | ÷         |       |           |               |          | T        |          |
| - 9  | SDG28L2121002FP                               | MBHC                        | C                | 1            | Ċ.,          |            | X       | 1. <sup>1</sup> . 1 |             |             | ÷ • •     | X            |                   | 10-Dec   | 10:10                        | X            | X         | X              | X                      | X    | 1         |       |           | 1             |          |          |          |
| -10 10                                     | SDG28L2121002FP                               | MSSW                        | C                | 1            |              |            | X       | т. н.<br>1          |             |             |           | X            |                   | 10-Dec   | 10:15                        | X            | X         |                | Γ                      |      |           |       |           | <br>          |          |          | 1        |
| -1) 11                                     | SDG28L2121002FP                               | MNSW                        | C                | 1            |              |            | X       |                     |             |             | à d       | X            | · .               | 10-Dec   | 10:20                        | X            | X         |                |                        |      |           | 5     | 2.4       |               |          |          |          |
| -12 12                                     | BDG28L2121002FP                               | EBHC                        | C                | 1            |              |            | X       |                     |             |             |           | X            |                   | 10-Dec   | 10:25                        | X            | X         | X              | X                      | X    | F         |       | į         |               |          |          | 1        |
| -13 13                                     | BDG28L2121002FP                               | ESSW                        | C                | 1            | (jane)       | · ·        | X       |                     | S. 7        |             |           | X            |                   | 10-Dec   | 10:30                        | X            | X         | : 2            |                        | 6776 | 1 -       | Ε,    |           | $\mathcal{X}$ | Р. ч.    | 1        | 10       |
| -74 14                                     | BDG28L2121002FP                               | ENSW                        | C                | 1            | 1.1          |            | X       | *_n                 | 1. 44 A     | ŀ           |           | X            |                   | 10-Dec   | 10:35                        | X            | X         |                | e e.                   |      | ŀ         |       |           |               |          | -        | -1       |
| Sampler Relinquistéd:                      | . 1   | 12-10                       | Rece             | )<br>Davie   | 8y:          |            | inter a | i nega<br>Pagra     | ç sışı      |             |           | Fax          | Res               | ults To Joi  | nn Good                      | <b>505</b> - | 394-      | 2601           | in contra<br>initian P |      | 97 2 - S. |       |           | S             |          |          | <u> </u> |
| Relinquished by:                           | rod   | Time 4 : 40<br>Date<br>Time | Reor             | elved        | 8y;∴(        | lab ste    | đf)     |                     |             |             |           | REM          | ARKS              | 3:   |                              |              | ·         |                |                        |      |           |       |           |               |          |          | Q        |
| Delivered by:                              | ······································        | Samete                      | 5                | l& int       | act<br>No    |            |         | Che                 | ecked       | 1 By:       |           |              |                   |  |                              |              |           |                |                        |      |           |       |           |               |          |          |          |

DEFS G-28 Loop 2 112002



#### PHONE (915) 673-7001 . 2111 BEECHWOOD . ABILENE, TX 79603 -

PHONE (505) 393-2326 . 101 E. MARLAND . HOBBS. NM 88240

ANALYTICAL RESULTS FOR ENVIRONMENTAL PLUS, INC. ATTN: JOHN GOOD P.O. BOX 1558 EUNICE, NM 88231 FAX TO: (505) 394-2601

Receiving Date: 12/20/02 Reporting Date: 12/26/02 Project Owner: DUKE ENERGY FIELD SERVICES Project Name: G28 LOOP2 112002 Project Location: UL-B SECTION 21 T22S R36E Sampling Date: 12/19/02 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: BC Analyzed By: BC

|                   | GRO                                | DRO                                  |         |         | ETHYL   | TOTAL   |
|-------------------|------------------------------------|--------------------------------------|---------|---------|---------|---------|
| LAB NO. SAMPLE ID | (C <sub>6</sub> -C <sub>10</sub> ) | (>C <sub>10</sub> -C <sub>28</sub> ) | BENZENE | TOLUENE | BENZENE | XYLENES |
|                   | (mg/Kg)                            | (mg/Kg)                              | (mg/Kg) | (mg/Kg) | (mg/Kg) | (mg/Kg) |

| ANALYSIS DATE:              | 12/23/02                                      | 12/23/02     | 12/23/02        | 12/23/02   | 12/23/02  | 12/23/02 |
|-----------------------------|---|--------------|-----------------|--|---|----------|
| H7348-1 SDG28L2121902BHC-15 | 1900  | 5600         | 0.819           | 24.2   | 23.0  | 98.2     |
|                             |   |              |                 |  | 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1  | -        |
|                             |   |              |                 |  |   |          |
|                             | an an Arthur an Arthur<br>An Arthur an Arthur | e Sterner in |                 | محمر 1973 (من 1971) - ملائد<br>محمد 1973 (من ماریک<br>1974 (مریک میروند) - مریک  | The second se |          |
|                             |   |              |                 |  |   |          |
|                             |   |              | National States | 2 - 27 Eb  |   |          |
|                             |   |              |                 | <ul> <li>The second s</li></ul> |   |          |
|                             |   |              |                 | · · · · · · · · · · · · · · · · · · ·  |   |          |
| Quality Control             | 762   | 847          | 0.108           | 0.100  | 0.104   | 0.306    |
|                             | 800   | 800          | 0.100           | 0.100  | 0.100   | 0.300    |
|                             | 95.2  | 106          | 108             | 100  | 104   | 102.0    |
|                             | 12.5  | 2.7          | 6.1             | 1.9  | 5.5   | 5.7      |

METHODS: TPH GRO & DRO - EPA SW-846 8015 M; BTEX - SW-846 8260.

A look Burgess J.

#### H7348.XLS

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| 105-385-2520 Tax            | 505-393-2476                 |                 |              |               |            | 91      | 5-67       | 3-7              | 001            | F          | ax 9              | 15-6                 | 373-7020    |         |            |           |                |                 |     |       |    |     |          |       |
|-----------------------------|------------------------------|-----------------|--------------|---------------|------------|---------|------------|------------------|----------------|------------|-------------------|----------------------|-------------|---------|------------|-----------|----------------|-----------------|-----|-------|----|-----|----------|-------|
| Company Name                | Environmental Plus           | <b>i, Inc</b> . |              |               |            | بر بندی | 31         |                  |                |            | Bill              | To                   |             |         |            |           |                | AN              | ALY | SIS R | EQ | JES | ľ        |       |
| Project Manager             | John Good                    |                 |              |               |            |         |            |                  |                |            |                   |                      |             |         | Г          | Τ         |                |                 |     |       |    |     |          |       |
| Address                     | P.O. BOX 1558                |                 |              |               |            |         |            |                  |                |            |                   |                      |             |         |            |           |                |                 |     |       |    |     |          |       |
| City, State, Zip            | Eunice New Mexico            | 882             | 31           |               |            | ]       |            | _                | 1              |            | :                 | Ш                    |             |         |            |           |                |                 |     |       |    |     |          |       |
| Phone#/Fax#                 | 505-394-3481 / 50            | 5-394           | -26          | 01            |            | ] ~     |            | -                | i dina<br>1917 |            |                   |                      |             |         |            |           |                |                 |     |       |    |     |          |       |
| <sup>2</sup> roject #/Owner | Duke Energy Field            | Servi           | <b>C8</b> 8  |               |            | ] `     |            |                  |                | 3          |                   | المراجع              |             |         |            |           |                |                 |     |       |    |     |          |       |
| Project Name                | G28 Loop2 112002             |                 |              |               |            | 1       |            |                  | 4              |            | Ę                 |                      |             |         | 1          |           |                |                 |     |       |    |     |          |       |
| Project Location            | UL-B Section 21 T2           | 28 F            | <b>236</b> E | :             |            | 1       |            |                  |                |            |                   |                      |             |         | İ.         | :         |                |                 |     |       |    |     | 1        |       |
| Sampler Name                | John Good                    | 1               |              |               |            | 1       |            |                  |                |            |                   |                      |             |         |            |           | 1              |                 |     |       |    |     |          |       |
|                             |                              | <b>.</b>        |              |               | _          | MA'     | <b>RIX</b> |                  |                | PR         | E8E               | RV.                  | SAMP        | PLING   | ]          |           |                |                 |     |       |    |     |          |       |
| LAB I.D.                    | SAMPLE I.D.                  | (G)RAB OR (C)OM | # CONTAINERS | GROUND WATER  | WASTEWATER | SOIL    | CRUDE OIL  | SLUDGE           | OTHER:         | ACIDIBASE  | ICERCOOF          | OTHER                | DATE        | TIME    | BTEX 8021B | TPH 8015M | CHLORIDES (CI) | SULFATES (SQ, ) | PH  |       |    |     |          |       |
| 1724R- 1180                 | G28L2121902BHC-15            | C               | 1            |               |            | X       |            |                  |                |            | X                 |                      | 19-Dec      | 11:00   | X          | X         |                |                 |     | ſ     | Г  | T   |          |       |
| 2                           |                              |                 |              |               |            |         |            |                  |                |            | ·                 |                      |             |         |            |           |                |                 |     |       |    | Τ   |          |       |
| 3                           |                              | Т               |              |               |            |         |            |                  |                |            |                   |                      |             |         |            |           |                |                 |     |       |    |     |          |       |
| 4                           |                              |                 |              |               |            |         |            |                  |                |            |                   |                      |             |         |            |           |                |                 |     |       |    |     |          |       |
| 5                           |                              |                 |              |               |            |         |            |                  | ·              |            |                   |                      |             |         |            |           |                |                 |     |       |    |     | [· ]     |       |
| 6                           |                              |                 |              |               |            |         |            |                  |                |            |                   |                      |             |         | - i        |           |                |                 |     |       | T  |     |          |       |
| 7                           |                              |                 |              |               |            |         |            |                  |                |            |                   |                      |             |         | Γ          |           |                |                 |     |       | Τ  | Γ   |          |       |
| 8                           |                              | ŀ.              |              |               |            |         |            |                  |                |            |                   |                      |             |         |            |           |                |                 |     |       | Τ  |     |          |       |
| 9                           |                              |                 |              |               |            |         |            | •                |                |            |                   |                      |             |         |            |           |                |                 |     |       | Τ  |     |          |       |
| 10                          |                              |                 |              |               |            |         |            |                  |                |            |                   |                      |             |         |            |           |                |                 |     | C     | I  | Ι   |          |       |
| 11                          |                              |                 |              |               |            |         |            | а<br>1 м. – 1 м. |                |            |                   |                      |             |         | į.         |           |                |                 |     |       | Ι  |     | :        |       |
| 12                          |                              |                 |              |               |            |         |            |                  |                |            | :                 |                      |             |         |            |           |                |                 |     |       |    |     |          | ·     |
| 13                          |                              |                 |              |               |            |         |            |                  |                |            |                   |                      |             |         |            |           |                |                 |     |       | Γ  |     | ·        |       |
| 14                          |                              |                 |              |               |            |         |            |                  |                |            |                   |                      |             |         |            |           |                |                 |     |       | Ι  |     |          |       |
|                             |                              |                 |              |               |            |         |            | 1.<br>           |                | - 75)<br>1 |                   | rius -Ca<br>rădinius |             |         |            |           | ÷.             | Х, н            |     |       |    | (   |          |       |
|                             | 0 12-20<br>Trim 4:45<br>Date | Rec             | elved        | By:<br>By: (1 | ab sta     | 희 /     |            | 0                | 1              |            | <b>Fax</b><br>Rem | Res<br>ARKS          | uits To Joi | hn Good | 505-       | 394-2     | 2601           |                 |     |       |    |     |          | يستحد |
| //<br>livered by:           | Trap                         |                 |              | Y             | 4          | ιff     |            | cited            | By:            | 4          |                   |                      |             |         |            |           |                |                 |     |       |    | -   | <b>.</b> |       |

Duke Energy Field Services



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

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS NM 88240

ANALYTICAL RESULTS FOR ENVIRONMENTAL PLUS, INC. ATTN: JOHN GOOD P.O. BOX 1658 EUNICE, NM 88231 FAX TO: (505) 394-2601

Receiving Date: 01/03/03 Reporting Date: 01/07/03 Project Number: DUKE ENERGY FIELD SERVICES Project Name: G-28 LOOP 2 Project Location: NOT GIVEN Sampling Date: 01/03/03 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: BC Analyzed By: BC

| LAB NO. SAMPLE ID           | GRO<br>(C <sub>e</sub> -C <sub>10</sub> )<br>(mg/Kg) | DRO<br>(>C <sub>10</sub> -C <sub>28</sub> )<br>(mg/Kg) | BENZENE<br>(mg/Kg) | TOLUENE<br>(mg/Kg) | ETHYL<br>BENZENE<br>(mg/Kg) | TOTAL<br>XYLENES<br>(mg/Kg) |
|-----------------------------|--|--|--------------------|--------------------|-----------------------------|-----------------------------|
| ANALYSIS DATE:              | 01/06/03   | 01/06/03   | 01/06/03           | 01/06/03           | 01/06/03                    | 01/06/03                    |
| H7376-1 SDG28L21302CBH-20'  | <10.0  | 138  | <0.005             | <0.005             | <0.005                      | <0.015                      |
| H7376-2 SDG28L21302CBH-25'  | <10.0  | <10.0  | <0.005             | <0.005             | <0.005                      | <0.015                      |
| H7376-3 SDG28L21302CBH-30'  | <10.0  | 22.0   | <0.005             | <0.005             | <0.005                      | <0.015                      |
|                             |  |  | :                  |                    |                             |                             |
|                             |  |  |                    |                    |                             | 1                           |
|                             |  |  |                    |                    |                             | 1                           |
|                             |  |  |                    |                    |                             | <b>†</b>                    |
|                             |  |  |                    |                    |                             |                             |
| Quality Control             | 769  | 799  | 0.089              | 0.094              | 0.097                       | 0.284                       |
| True Value QC               | 800  | 800  | 0.100              | 0.100              | 0.100                       | 1                           |
| % Recovery                  | 96.1   | 99.9   | 88.9               | 94.2               | 97.1                        |                             |
| Relative Percent Difference | 0.5  | 1.0  | 3.9                | 3.7                | 10.6                        | +                           |

METHODS: TPH GRO & DRO - EPA SW-846 8015 M; BTEX - SW-846 8260.

, Coohi Burgess J. AJ Cooks

11/03 Date

#### H73768T.XLS

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unitses and en witting and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidential or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its absidantes, affiliates or successore arising out of or related to the performance of services hereurder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.



PHONE (915) 673-7001 . 2111 BEECHWOOD . ABILENE, TX 79603

PHONE (505) 393-2326 . 101 E. MARLAND . HOBBS, NM 88240

ANALYTICAL RESULTS FOR **ENVIRONMENTAL PLUS, INC.** ATTN: JOHN GOOD P.O. BOX 1558 EUNICE, NM 88231 FAX TO: (505) 394-2601

Receiving Date: 01/03/03 Reporting Date: 01/06/03 Project Owner: DUKE ENERGY FIELD SERVICES Project Name: G-28 LOOP 2 Project Location: NOT GIVEN

Sampling Date: 01/03/03 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: BC Analyzed By: AH

|                                       |                    | CL       | SO4      |
|---------------------------------------|--------------------|----------|----------|
| LAB NUMBE                             | R SAMPLE ID        | (mg/Kg)  | (mg/Kg)  |
| ANALYSIS [                            | DATE               | 01/06/03 | 01/06/03 |
| H7376-1                               | SDG28L21302CBH-20' | 112      | 408*     |
| H7376-2                               | SDG28L21302CBH-25' | 80       | 73.1     |
| H7376-3                               | SDG28L21302CBH-30' | 96       | 91.4     |
|                                       |                    |          |          |
| · · · · · · · · · · · · · · · · · · · |                    |          |          |
|                                       |                    |          | -        |
| Quality Cont                          | rol                | 980      | 50.20    |
| True Value                            | <u>ĴC</u>          | 1000     | 50.00    |
| % Recovery                            |                    | 98.0     | 100      |
| <b>Relative Per</b>                   | cent Difference    | 2.0      | 0.7      |

METHODS: 600/4-79-020 \*Standard Methods

Note: Analyses performed on 1:4 wiv aqueous extracts.

\* Matrix interferenece (color) observed.

emist

375.4

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4500-CI'B\*

|                             | 300  | , - n            |                     |                        |            | 41 PU         | i, nu              |                 | <b>.</b> , 1     | -              | ~        | -  |                                     |        |            |          |     |              | -      |              |             |                          |                |                        |                               |                           |
|-----------------------------|--|------------------|---------------------|------------------------|------------|---------------|--------------------|-----------------|------------------|----------------|----------|--|-------------------------------------|--------|------------|----------|-----|--------------|--------|--------------|-------------|--------------------------|----------------|------------------------|-------------------------------|---------------------------|
| iperry Hame:                | 915) bi 901 Fax (915) 673-702  | ) (5             | 05)<br>0//          | <u>293</u>             | -232       | <u>6 F</u> a  | ax (5              | 05              | ) 39             | 03 Z           | 247      | 6<br>1 TO                                    | )                                   |        |            |          |     | A            | JAL Y  | SIS          | REO         |                          | <u> </u>       |                        |                               | ) <b>1</b>                |
| ect Manager:                | Tahu and   | Z/               | <u>µ</u> .º         | <u>.</u>               |            |               | -  =               | 0.1             | <b>R</b> .       |                |          |  |                                     |        | T          | <b>—</b> |     | Ť            | Ť      | T            | <u> </u>    | <u> </u>                 |                |                        |                               |                           |
| ress: 210                   | n Anero  |                  |                     |                        |            |               |                    | om              |                  | mr:            |          |  |                                     |        |            |          |     | - 1          |        |              | - 1         |                          |                |                        |                               |                           |
| Enn                         | Q State: A/ M  | Zip:             |                     | 88                     | 22         | 1             |                    | <u>.</u>        |                  |                |          |  |                                     |        | l          |          |     | 1            |        | Ì            |             | 1                        | 1              |                        | 1                             |                           |
|                             | - 344-348 Fax 8: 500   | . 39             | 74.                 | 2                      | 20         | /             | -                  | ddr             |                  |                |          |  |                                     | I      |            |          |     | - 1          |        |              | - 1         |                          |                |                        | 1                             |                           |
| loct #:                     | Project Owner  | T.               | 1 20                | عر ا                   |            | 71            | , [c               | City.           |                  |                |          |  |                                     |        |            |          | 1   | 1            | 1      | 1            |             |                          |                | 1                      |                               |                           |
| lect Name:                  | G-28 /000 2.   |                  |                     |                        |            | <i>[</i> ~    | - Is               | tate            | ĸ                |                | 2        | Lioc   |                                     |        | 12         | 9        |     |              |        |              |             |                          |                |                        |                               |                           |
| Hert Location:              | lect Location:   |                  |                     |                        |            | -             | the                | 10 (            | k                |                |          |  |                                     |        |            |          |     |              |        |              |             | . 1                      |                |                        |                               |                           |
| npler Name: Brodles Blevis  |  |                  |                     |                        |            | <del>ار</del> |                    | <b>s</b> :      |                  |                |          |  |                                     | 1      | 2          | N        |     |              |        |              |             |                          |                |                        |                               |                           |
| RUBUREOLT                   |  |                  |                     |                        | MAT        | RIX           |                    | F               | RE               | SE             | N.       | SAMPLE                                       | G                                   | 1.5    | 2          | ٦        | S   |              |        |              |             |                          | <del>ا</del> ا |                        |                               |                           |
| 1                           |  | S                |                     | œ l                    |            | Π             |                    |                 | I                | Ĩ              |          | Ī  |                                     | ۱ ۲    | 7          | X        | . Ś |              | I      |              |             |                          | ' ۱            | l I                    |                               |                           |
|                             |  | ĕ                | Eg                  | AT N                   | 5          |               |                    |                 |                  |                |          |  |                                     | 3      | X          | 6        | Ì   | 3            | ·      |              |             |                          |                |                        |                               |                           |
| ab I.D.                     | Sample LD.   | No.              | Z                   | ŇQ                     | 5          | ő             |                    |                 |                  | ฐโ             | ::       |  |                                     |        | ٦Ľ         | 5        | 3   | <i>G</i>     |        |              |             |                          | l I            | l                      |                               | 1                         |
| 1                           | -  | 2                | Ň                   | <b>N</b>               | ي او       | g             | ß                  | Į.              | 5                | Š              | ž        |  |                                     |        | יךי        | 18       | V   | VP           |        |              |             |                          |                | Į.                     |                               | 1 1                       |
| 1.00077                     |  | 1È               | Ň                   | 5                      |            | 12            | 3                  | 희               | 31               | 2              | 5        | DATE   | TIME                                |        | +-         | _        |     |              |        |              | <b> </b>    |                          | ┢──            | ╂                      | <b> </b>                      | <b>└──┤</b>               |
| 41312                       | SDC028421302(BI1-00  | 12               | 부분                  | ┝─┼                    | -H         | <b>}</b> _    | $\left  - \right $ | -               | -                | Å              | $\vdash$ | 1-3-05                                       | 7:00                                | 42     | 4          | <u>×</u> | X   |              |        |              | ┨───        | ╂──                      | ╂              | <b>}</b>               | ┨───                          | -+                        |
|                             | SDG&XIA/30A BH-A   |                  | 4                   | ┠─┼                    | +          | ¥-            | $\vdash$           |                 |                  | Ă              |          | 1-3-03                                       | 8 15                                | ╡┤     | <u>+</u> + | ÷        | X   |              |        |              |             |                          | ╉──            |                        | ╂╼╼╍                          | ╂──┦                      |
|                             | 20 (30 x Lat 3024-DH-2   | 40               | 4                   | ┠─╂                    | ť          | 4-            | $\left  - \right $ |                 | -                | ×              |          | 1-3.03                                       | 8.5                                 | ¥ -'   | -          | Å        | X   | <u>ح</u> ـ   |        |              |             | ╂──                      | +-             |                        |                               |                           |
| ·                           |  |                  |                     | ╂╌┨                    | -+-        | ╉╍            | +                  | -               |                  | ┝              | -        |  |                                     | +-     | -+-        |          |     |              |        | ┢──          |             |                          | <b>+</b>       |                        | -{                            |                           |
|                             | · · · · · · · · · · · · · · · · · · ·  | +-               | ╋                   | ╂╌┨                    | -          | ╋             | ╋╾┥                |                 |                  | ┢─             | ┢─       | }  |                                     |        |            |          |     |              |        | <del> </del> |             |                          | ┼──            | +                      |                               | <b>f</b>                  |
|                             |  | ╋                | ╋                   | $\mathbf{H}$           | -+-        | ╈             | +                  |                 | -                | ┢╴             | ┢╴       | {  | }                                   | ╈      | +          |          |     | <b>}</b>     | 1      |              | +           | 1                        | +-             | -                      | +                             |                           |
|                             |  | -1-              | 1-                  |                        |            | ╋             | ╀╴                 |                 |                  | 1-             | ┢        | <b> </b>                                     |                                     |        | -          |          |     | 1-           | 1      | 1-           | -           |                          | 1-             | 1-                     | 1                             |                           |
|                             |  | 1                | 1                   |                        |            | $\uparrow$    | $\uparrow$         | t               | ſ                | t              | t        | 1  | 1                                   | 1      | -†         |          | 1   | 1            | 1      | 1            |             |                          | 1              |                        |                               | 1                         |
|                             |  |                  | T                   |                        | $\Box$     |               | 1                  | Γ               | 1                | T              | Γ        |  |                                     |        |            |          |     | 1            |        |              |             |                          | T              |                        |                               |                           |
| Land Molle Unity a          | and Chanagers, Cardonit's Babby and Anat's seed, also reasoning for<br>ing dasas for anylypeans and any stars orang whether over shell be  | 99 dil<br>Anno 1 |                     | y ulaida<br>I arban    |            | 1             |                    |                 | 90<br>4 4        |                |          | ینا کلو و منصد به<br>سه سلو میدو الا :       | des al se de la<br>aphalan al Per a | -      |            |          |     |              | 1      | ria and      |             | in lander<br>a sala af S | 2652<br>M pr o | agad an d<br>ann han i | د باندریند<br>به اندازیاده ما | ion Bon.<br>de el Instan, |
| inten, in an owner shall be | Cardinal for Index for Index and an auto-special discretion, building and of an exclusion to the particulation of cardinal terms of the second s | Curdent          | l landad<br>L magaz | int, lind<br>ritera di | unit film  |               | u, haa<br>Mari bii | af una<br>manag | , ar la<br>agree | 100 A<br>111 A |          | temperad by adjust,<br>here y statust recent | , for extended when                 |        |            |          |     |              |        | 12 al 444    | a al anti-a | hera, beha               |                | nyte temp.             |                               |                           |
| empler Reling               | ulahed: Deta:  | 31               | yod                 | a a                    | By:        |               | 8                  |                 |                  | 1/             | í -      |  | Phone<br>Fax Ra                     | Result |            |          | 1   | D No<br>D No |        | 1 Phot       | 10 F.       |                          |                |                        |                               |                           |
| Forth.                      | Rhann Three 4' m   | 51               | _                   | In                     | he         | 4             | 40                 | -,-             |                  | Ľ              |          |  | REMA                                | UCS:   |            |          |     |              | قتصر م |              |             |                          |                |                        |                               |                           |
| Collectuation of C          | Daty: 2-0  | 3                | Ric .               | -                      | By:        | 16            | 635                | n)              | ,                |                |          | <u> </u>                                     | -1                                  |        |            |          |     |              |        |              |             |                          |                |                        |                               |                           |
| 1 All                       | 11 bood Tinger   | -                |                     | Έ                      | <u>, 1</u> | 11            | $\Lambda$          | Π               | 1                | 1.             |          | r  | 1                                   |        |            |          |     |              |        |              |             |                          |                |                        |                               |                           |
| Delivered H                 | V: (Circle One)  | 1.               | -                   | $\mu$                  | 坐          |               | -                  |                 | ť                | Ą              | 14       | KED BY                                       | 4                                   |        |            |          |     |              |        |              |             |                          |                |                        |                               |                           |
| Sampler - LIP               | S - Bus - Other:   |                  |                     |                        | 5          | į             | tegt<br>Nev        |                 |                  | -              | Į.       | nitiale)                                     | 1                                   |        |            |          |     |              |        |              |             |                          |                |                        |                               |                           |
|                             |  |                  |                     |                        | <u>_ď</u>  | No            | <u> </u>           | <del>6</del> 0  |                  |                | _        |  |                                     |        |            | ·        |     |              |        |              |             |                          |                |                        |                               | دوب مناتيد                |

1 Cardinal cannot accept verbal changes. Please fax written changes to 505-

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

PHONE (505) 393-2326 . 101 E. MARLAND . HOBBS. NM 88240

ANALYTICAL RESULTS FOR ENVIRONMENTAL PLUS, INC. ATTN: JOHN GOOD P.O. BOX 1558 **EUNCE, NM 88231** FAX TO: (505) 394-2601

Receiving Date: 01/09/03 Reporting Date: 01/11/03 Project Owner: DUKE ENERGY FIELD SERVICES Project Name: G-28 LOOP 2 112002 Project Location: UL-B SEC21 T22S R36E

Sampling Date: 01/09/03 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: BC Analyzed By: BC ETHYL TOTAL

| LAB NO. SAMPLE ID  | (C <sub>6</sub> -C <sub>10</sub> )<br>(mg/Kg) | DRO<br>(>C <sub>10</sub> -C <sub>28</sub> )<br>(mg/Kg) | BENZENE<br>(mg/Kg) | TOLUENE<br>(mg/Kg) | ETHYL<br>BENZENE<br>(mg/Kg) | XYLENES<br>(mg/Kg) |
|--|---|--|--------------------|--------------------|-----------------------------|--------------------|
| ANALYSIS DATE:   | 01/10/03                                      | 01/10/03   | 01/09/03           | 01/09/03           | 01/09/03                    | 01/09/03           |
| H7389-1 SDG28L2010903  | BHC-20 <10.0                                  | 21.7   | <0.005             | <0.005             | <0.005                      | <0.015             |
| H7389-2 SDG28L2010903  | SSWC  | 87.6   | <0.005             | < 0.005            | <0.005                      | <0.015             |
| H7389-3 SDG28L2010903  | ESWC  | 32.0   | <0.005             | < 0.005            | <0.005                      | <0.015             |
| H7389-4 SDG28L2010903  | NSWC  | 38.4   | <0.005             | <0.005             | <0.005                      | < 0.015            |
| H7389-5 SDG28L2010903  | WSWC  | 265  | <0.005             | <0.005             | <0.005                      | <0.015             |
|  |   |  |                    |                    |                             |                    |
| war an anna an third to an |   |  |                    |                    | the state of the            |                    |
|  |   |  |                    |                    |                             |                    |
| Quality Control  | 773   | 813  | 0.109              | 0.100              | 0.101                       | 0.296              |
| True Value QC  | 800   | 800  | 0.100              | 0.100              | 0.100                       | 0.300              |
|  | _ 96.6 .                                      | 102  | 109                | 99.8               | 101                         | 98.5               |
| [  | 7.5   | 1.7  | 11.0               | 2.2                | 1.3                         | 1.2                |

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METHODS: TPH GRO & DRO - EPA SW-846 8015 M; BTEX - SW-846 8260.

Buy espe Coohe

11/07 Date

#### H73898T.XL6

H/SOSO LAGO PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for an All claims, including those for negligance and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the app service. In no event shall Cardinal be liable for incidential or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profile incurred by client, its subsi stillates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise



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PHONE (505) 393-2326 . 101 E. MARLAND . HOBBS. NM 88240

ANALYTICAL RESULTS FOR ENVIRONMENTAL PLUS, INC. ATTN: JOHN GOOD P.O. BOX 1558 EUNICE, NM 88231 FAX TO: (505) 394-2601

Receiving Date: 01/09/03 Reporting Date: 01/10/03 Project Owner: DUKE ENERGY FIELD SERVICES Project Name: G-28 LOOP 2 112002 Project Location: UL-B SEC21 T22S R36E Sampling Date: 01/09/03 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: BC Analyzed By: AH

|                     | Çſ   | SO₄ _  |
|---------------------|--|--|
| ER SAMPLE ID        | (mg/Kg)  | (mg/Kg)  |
| DATE                | 01/10/03   | 01/10/03   |
| SDG28L2010903BHC-20 | 128  | 77.9   |
| SDG28L2010903SSWC   | 96   | 24.4   |
| SDG28L2010903ESWC   | 112  | 246  |
| SDG28L2010903NSWC   | 128  | 49.4   |
| SDG28L2010903WSWC   | 112  | 122  |
|                     |  |  |
| <b>trol</b>         | 980  | 50.20  |
| QC                  | 1000   | 50.00  |
|                     | 98.0   | 100  |
| cent Difference     | 2.0  | 0.7  |
|                     | ER SAMPLE ID<br>DATE<br>SDG28L2010903BHC-20<br>SDG28L2010903SSWC<br>SDG28L2010903ESWC<br>SDG28L2010903NSWC<br>SDG28L2010903WSWC<br>rol<br>DC | Cr<br>ER SAMPLE ID (mg/Kg)<br>DATE 01/10/03<br>SDG28L2010903BHC-20 128<br>SDG28L2010903SSWC 96<br>SDG28L2010903SSWC 112<br>SDG28L2010903NSWC 128<br>SDG28L2010903WSWC 112<br>rol 980<br>QC 1000<br>98.0<br>cent Difference 2.0 |

| METHODS: 600/4-79-020 |       | 4500-CI'B* | 375.4 |
|-----------------------|-------|------------|-------|
| *Standard Methods     | · · · |            |       |

Note: Analyses performed on 1.4 w v aqueous extracts.

1-10-03

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| 101 East Marian<br>505-393-2326 | d, Hobbs, NM 88240<br>Fax 505-393-2476 |                              |                 |              |                         |              | 21<br>91             | 11 E<br>5- <u>67</u> | 3ee<br>73-7 | chw<br>'001 | ood<br>F  | , Ab<br>ax 9 | oilen<br>915-(       | e, TX 79<br>673-7020                        | 603<br>D         |            |           |                |                |                    |             |      |    | _   |         |   |
|---------------------------------|--|------------------------------|-----------------|--------------|-------------------------|--------------|----------------------|----------------------|-------------|-------------|-----------|--------------|----------------------|---|------------------|------------|-----------|----------------|----------------|--------------------|-------------|------|----|-----|---------|---|
| Company Name                    | Environm                               | ental Plus,                  | Inc             |              |                         |              |                      |                      |             | i i<br>i i  |           | Bill         | l To                 |   | 3                |            |           | سندني          | AN             | ALY                | <b>/SIS</b> | 3 RE | QU | EST | وأشداده |   |
| Project Manager                 | John Goo                               | d                            |                 |              |                         |              |                      |                      |             |             |           |              |                      |   |                  | l I        |           |                |                |                    |             |      |    |     |         |   |
| Address                         | P.O. BOX                               | ( 1558                       |                 |              |                         |              |                      |                      |             |             |           |              | 10(210<br><b>11.</b> | ia.   |                  | ļ          |           |                |                |                    |             |      |    |     |         |   |
| City, State, Zip                | Eunice N                               | ew Mexico I                  | 382             | 31           |                         |              |                      |                      |             | 1_          |           |              |                      |   |                  |            |           |                |                |                    |             |      |    |     | Ĩ       |   |
| Phone#/Fax#                     | 505-394-3                              | 3481 / 505-3                 | 394             | -26          | 01                      |              | <                    | $\langle$            |             |             |           |              | P                    |   |                  |            |           |                |                |                    | 1           |      |    |     |         |   |
| Project #/Owner                 | Duke Ene                               | rgy Field S                  | ervi            | ices         |                         |              |                      |                      |             | ſ           | <u> </u>  | ٦            | Ţ                    | 1779 1984 1984 1984 1984 1984 1984 1984 198 |                  |            |           |                |                |                    |             |      |    |     |         |   |
| Project Name                    | G-28 Loo                               | p 2 112002                   |                 |              |                         |              |                      |                      |             |             |           |              | າີເັງ-ນອດາ           | ~   |                  |            |           |                |                |                    |             |      |    |     |         |   |
| Project Location                | UL-B Sec                               | tion 21 T22                  | S F             | 36           |                         |              |                      |                      |             |             |           |              |                      |   | r ĝ              |            |           |                |                |                    |             |      |    |     | Ì       |   |
| Sampler Name                    | John Goo                               | d                            |                 |              |                         |              |                      |                      |             |             |           |              |                      |   |                  |            |           |                |                |                    |             |      |    |     |         |   |
|                                 |  |                              |                 |              |                         | MA           | TRIX                 |                      | -           | PR          | E8E       | RV.          | <u>SAM</u>           | PLING                                       |                  |            |           |                |                |                    | 1           |      |    |     |         |   |
| LAB I.D.                        | SAMPLE I.                              | <b>D.</b>                    | (G)RAB OR (C)OM | # CONTAINERS | <b>GROUND WATER</b>     | WASTEWATER   | SOIL                 | CRUDE OIL            | SLUDGE      | OTHER:      | ACID/BASE | ICE/COOF     | OTHER                | DATE  | TIME             | BTEX 8021B | TPH 8015M | CHLORIDES (CI) | SULFATES (SQ.) | Ha                 |             |      |    |     |         |   |
| H7389-1 1                       | SDG28L2010903BH                        | IC-20                        | C               | 1            |                         |              | X                    |                      |             |             |           | X            | ς                    | 9-Jan                                       | 10:30            | X          | X         | X              | X              |                    |             |      |    |     |         |   |
| -2 2                            | SDG28L201090385                        | WC 🚽                         | C               | 1            |                         |              | X                    |                      |             |             |           | X            |                      | 9-Jan                                       | 10:45            | X          | X         | X              | X              |                    | L           | L    |    |     | ┛       |   |
| -3 3                            | SDG28L2010903ES                        | WC                           | С               | 1            |                         |              | X                    |                      |             |             |           | X            |                      | 9-Jan                                       | <b>11:00</b>     | X          | X         | X              | X              |                    |             |      |    |     |         |   |
| -44                             | SDG28L2010903NS                        | WC 📰                         | С               | 1            |                         |              | X                    |                      |             |             |           | X            |                      | 9-Jan                                       | 11:15            | X          | X         | X              | X              |                    |             |      |    |     |         |   |
| <u> </u>                        | SDG28L2010903W5                        | BWC                          | C               | 1            |                         |              | X                    |                      |             |             |           | <b>X</b>     |                      | 9-Jan                                       | 11:30            | ×          | ×         | X              | ×              |                    |             |      |    |     | ╉       | + |
| 8<br>Samula Palinguishad        |  |                              | Peop            |              |                         | - 201 T.<br> | 2.<br>2.<br>2.<br>2. |                      |             |             |           |              |                      |   |                  |            |           |                |                |                    |             |      |    |     |         |   |
| Relinguished by                 | ford                                   | 7-9-03<br>Three 4/10<br>Date | Rece            |              | 7.<br>3y: (le<br>1.a. / | ib stat      |                      | AU                   | 1           | ki          |           | Plet<br>REM  | <b>ise F</b><br>Arks | <b>ax Result</b>                            | s To John (<br>7 | Good       | d A8      | AP -           | 505            | -3 <del>9</del> 4- | -260        | 1    |    |     |         |   |
| Delivered by:                   | -                                      | Sample                       | _/s             | & inti       |                         | -7           |                      | ch                   | Boked       | By:         |           |              |                      |   |                  |            |           |                |                |                    |             |      |    |     |         |   |

Condinal Laboratorias Inc

Duke Energy Field Services

| District I                                  |
|---|
| 1625 N. French Dr., Hobbs, NM 88240         |
| District II                                 |
| 1301 W. Grand Avenue, Artesia, NM 88210     |
| District III                                |
| 1000 Rio Brazos Road, Aztec, NM 87410       |
| District IV                                 |
| 1220 S. St. Francis Dr., Santa Fe, NM 87505 |

#### State of New Mexico Energy Minerals and Natural Resources

Form C-141

Revised June 10, 2003

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

#### **Release Notification and Corrective Action**

|  | O   | PERATOR  |  |  |   |  | 🗇 Initial Report  | Final Report  |  |  |  |  |  |
|--|---|--|--|--|---|--|---|---|--|--|--|--|--|
| Name of Company  | DUKE ENE  | RGY FIELI  | D SERVI  | CES  | Contact   | Paul Mulkey  |   |   |  |  |  |  |  |
| Address  | 11525 W. Ca   | rlsbad Hwy.  | Hobbs  | , NM 88240   | Telephone No.   | 505-397-5716   |   |   |  |  |  |  |  |
| Facility Name  | G-28 Loop-2 1   | 12002  |  |  | Facility Type   | Natural Gas Ga   | thering Pipeline  |   |  |  |  |  |  |
| Surface Owner  | Millard Deck  | Estate   |  |  | NA  |  | Lease No.   | NA  |  |  |  |  |  |
|  |   |  | 1  | LOCATION O   | F RELEASE   |  |   |   |  |  |  |  |  |
| Unit Letter  | Section   | Township   | Range  | Feet from  | Feet from   | Longitude  | Latitude  | County:   |  |  |  |  |  |
| В  | 21  | 228  | 36E  | South Line<br>4900   | West Line<br>3650   | W103:15:58.84  | N32:23:00.03  | Lea   |  |  |  |  |  |
|  |   |  |  | NATURE OF  | OF RELEASE  |  |   |   |  |  |  |  |  |
| Type of Release  |   |  |  |  | Volume of Relea   | ase  | Volume Recovered  |   |  |  |  |  |  |
| Natural Gas rel  | ease and assoc  | iated NGL's  | S  |  | 250   | bbl  | 200   | bbl   |  |  |  |  |  |
| Source of Release  |   |  |  |  | Date and Hour of  | of Occurrence  | Date and Hour of I  | Discovery   |  |  |  |  |  |
| G-28 Loop-2 20   | '' Steel Pipelin  | e  |  |  | Unknown   |  | 11/20/02-11:00 AN   | 4   |  |  |  |  |  |
| Was Immediate No   | tice Given?   |  |  |  | If YES, To Who  | om?  | •   |   |  |  |  |  |  |
|  | ☑ <sub>Yes</sub>  | D No   |  | Required   | Larry Johnso  | on; NMOCD-Hol  | obs   |   |  |  |  |  |  |
| By Whom?   | Stan Shaver   | - DEFS   |  |  | Date and Hour   | 11/20/02-11:30 AN  | 1   |   |  |  |  |  |  |
| Was a Watercourse  | Reached?  |  |  |  | If YES, Volume Impacting the Watercourse.   |  |   |   |  |  |  |  |  |
|  |   | □ <sub>Yes</sub>   | ☑ <sub>No</sub>  |  | NA  |  |   |   |  |  |  |  |  |
| If a Watercourse wa  | as Impacted, Desc   | cribe Fully.*  |  |  | A   |  |   |   |  |  |  |  |  |
| NA   |   |  |  |  |   |  |   |   |  |  |  |  |  |
| Describe Cause of I  | Problem and Rem   | edial Action T   | aken.*   |  |   |  |   |   |  |  |  |  |  |
| Corroded pipeline  | , initially repaire   | ed with clamp  | then sectio  | n replaced   |   |  |   |   |  |  |  |  |  |
| Describe Area Affe   | cted and Cleanup  | Action Taken   | *  |  |   |  |   |   |  |  |  |  |  |
| ~4837-ft <sup>2</sup> surface a contaminated soil  | nrea affected (63<br>was excavated a  | 2-ft East from<br>nd disposed of   | 1 POR). ~2:<br>f by EPI. M   | 50-bbl of NGL re<br>laximum excava   | eleased; 200-bbl<br>tion depth was 2  | recovered. 1,960-yd<br>0-ft bgs. Excavated   | l <sup>3</sup> of RCRA Exemp<br>soil was replaced w   | t Non-hazardous<br>vith clean backfill.   |  |  |  |  |  |
| I hereby certify that the<br>required to report and/<br>report by the NMOCD<br>pose a threat to ground<br>compliance with any or | e information given a<br>or file certain release<br>marked as "Final Re<br>l water, surface wate<br>ther federal, state, on | above is true and<br>e notifications and<br>eport" does not re<br>er, human health<br>r local laws and/o | complete to t<br>d perform cor<br>elieve the ope<br>or the enviror<br>r regulations. | he best of my knowle<br>rective actions for re<br>rator of liability shou<br>ument. In addition, N | edge and understand<br>eleases which may er<br>ald their operations h<br>NMOCD acceptance | that pursuant to NMOG<br>adanger public health or<br>nave failed to adequately<br>of a C-141 report does | CD rules and regulations<br>the environment. The a<br>investigate and remedi-<br>not relieve the operator | s all operators are<br>acceptance of a C-141<br>ate contamination that<br>of responsibility for |  |  |  |  |  |
| Signature:   | 177   | Julk   | ~  |  |   | <u>OIL CONSERV</u>   | ATION DIVISION  | <u>N</u>  |  |  |  |  |  |
| Printed Name:  | · · · ·   | Paul Mulke   | ey /   |  | Approved by Di  | strict Supervisor:   |   |   |  |  |  |  |  |
| Title:   | Constructio   | n/Maintena   | nce Super  | intendent  | Approval Date:  |  | Expiration Date:  |   |  |  |  |  |  |
| E-mail Address:  | pdmulkey@   | duke-energy  | y.com  |  | Conditions of A   | pproval:   |   | Attacked  |  |  |  |  |  |
| Date:  | 9/17/03   | Phone:   | 505  | -397-5716  |   | ρρισναι.   |   | Auachea.  |  |  |  |  |  |

| Duke<br>Field            | Energy<br>Services                    | Incident D<br>11/20/02-    | ate and Ni<br>11:00 AM   | MOCD Notified<br>11/20/02-1 | 1?<br>1:30 AM   |  |
|--------------------------|---------------------------------------|----------------------------|--------------------------|-----------------------------|-----------------|--|
| SITE: G-28 Loop-         | 2 112002                              |                            | _                        | Assigned Site               | Reference       | # 112002                               |
| Company:                 | DUKE ENE                              | RGY FIELI                  | <u>SERVIC</u>            | ES                          |                 |  |
| Street Address:          | 5805 East                             | Highway 80                 |                          |                             |                 |  |
| Mailing Address:         | 11525 W. (                            | Carlsbad Hv                | vy.                      |                             |                 |  |
| City, State, Zip:        | Hobbs, NM                             | 88240                      |                          |                             |                 |  |
| Representative:          | Paul Mulke                            | y                          |                          |                             |                 |  |
| Representative Teleph    | none: 505-397-57                      | 716                        |                          |                             |                 |  |
| Telephone:               |                                       |                            |                          |                             |                 |  |
| Fluid volume released    | (bbls): 250                           | Recovered                  | ed (bbls):               | 200                         |                 |  |
|                          | >25 bbls: Noti                        | fy NMOCD ver               | bally within 24          | hrs and submit for          | m C-141 within  | 15 days.                               |
|                          | 5-25 bbls: Submit form C-             | 141 within 15 d            | ays (Also app            | lies to unauthorized        | releases of 50- | 500 mcf Natural Gas)                   |
| Leak, Spill, or Pit (LSF | P) Name:                              | # 112002                   |                          |                             |                 |  |
| Source of contamination  | on:                                   | G-28 Loop                  | 2 20" Stee               | l Pipeline                  |                 |  |
| Land Owner, i.e., BLM    | l, ST, Fee, Other:                    | Millard Dec                | k Estate                 | Harding & Ca                | rbone, Inc.,    | 3903 Belair Blvd, Houston, TX 77025    |
| LSP Dimensions:          |                                       | ~600-ft eas                | t flowpath               | (GPS Site Diag              | gram attach     | ed)                                    |
| LSP Area:                |                                       | 4,837                      | -ft <sup>2</sup>         |                             |                 |  |
| Location of Reference    | Point (RP):                           |                            |                          |                             |                 |  |
| Location distance and    | direction from RP:                    |                            |                          |                             |                 | ······                                 |
| Latitude:                |                                       | N32:23:00.                 | 03                       |                             |                 |  |
| Longitude:               |                                       | W103:15:5                  | 8.84                     |                             |                 |  |
| Elevation above mean     | n sea level:                          | 3537                       | -ft amsl                 |                             |                 |  |
| Feet from South Secti    | on Line:                              | 4900                       |                          |                             |                 |  |
| Feet from West Section   | on Line:                              | 3650                       |                          |                             |                 |  |
| Location - Unit and 1/4  | 4 1/4: UL-                            | В                          | NE                       | 1/4 of NE                   | 1/4             |  |
| Location - Section:      | · · · · · · · · · · · · · · · · · · · | 21                         |                          |                             | <u> </u>        |  |
| Location - Township:     |                                       | 225                        |                          |                             | ·               | · · · · · · · · · · · · · · · · · · ·  |
| Location - Bange:        |                                       | 36E                        |                          |                             |                 | ······································ |
| Surface water body wi    | thin 1000' radius of Sit              | e:                         | 0                        |                             |                 |  |
| Surface water body wi    | thin 1000' radius of Sit              | e:                         | 0                        |                             |                 | ······································ |
| Domestic water wells     | within 1000' radius of S              | ite:                       | <u>0</u>                 |                             |                 |  |
| Domestic water wells     | within 1000' radius of S              | lite:                      | 0                        |                             |                 |  |
| Agricultural water well  | s within 1000' radius of              | Site                       | 0                        |                             |                 | ·····                                  |
| Agricultural water well  | s within 1000' radius of              | Site:                      | 0                        |                             |                 | ······································ |
| Public water supply we   | ells within 1000' radius              | of Site                    | 0                        |                             |                 | <u> </u>                               |
| Public water supply we   | alls within 1000' radius              | of Site                    | 0                        |                             |                 | <u> </u>                               |
| Depth (ft) from land su  | inface to ground water                |                            | 165                      |                             |                 |  |
| Depth (ft) of contamin   | ation (DC):                           | (DC).                      | 20                       | ··· ··· ·                   |                 |  |
| Depth (ft) to ground w   | ation (DC).<br>ater (DG - DC - DtGW)  | ).                         | 145                      |                             |                 | · · · · · · · · · · · · · · · · · · ·  |
| 1 Grou                   | atel (DG - DC - DCW)<br>ad Water      | /.<br>2 Wolli              | head Prot                | otion Area                  | 2               | Distance to Surface Water Pody         |
| If Dopth to GW <50 fo    | ot: 20 pointo                         | If <1000' fr               | om water s               |                             | 3.1             | Distance to Surface water Body         |
|                          | et. 20 points                         | <200' from                 | private do               | mestic water                | <200 horiz      | ontal feet: 20 points                  |
| If Depth to GW 50 to 9   | 99 feet: 10 points                    | source: 20                 | points                   |                             | 200-100 h       | norizontal feet: 10 points             |
| If Depth to GW >100 f    | eet: <i>0 points</i>                  | lf >1000' fr<br>>200' from | om water s<br>private do | ource, or,<br>mestic water  | >1000 hori      | zontal feet: 0 points                  |
|                          |                                       | source: 0 p                | oints                    |                             |                 | ······································ |
| Ground water Score:      | 0                                     | Wellhead F                 | Protection /             | Area Scor 0                 | Surface W       | ater Score: 0                          |
| Site Rank (1+2+3) =      | 0                                     |                            |                          |                             |                 |  |
|                          | Total S                               | ite Ranking                | Score an                 | d Acceptable                | Concentrat      | ions                                   |
| Parameter                | 20 or >                               |                            | L                        | 10                          |                 | 0                                      |
| Benzene                  | 10 ppm                                |                            |                          | 10 ppm                      |                 | 10 ppm                                 |
| BTEX'                    | 50 ppm                                |                            |                          | 50 ppm                      |                 | 50 ppm                                 |
| ТРН                      | 100 ppm                               |                            | L                        | 1000 ppm                    |                 | 5000 ppm                               |
| 100 ppm field VOC h      | eadspace measuremer                   | nt may be s                | ubstituted (             | or lab analysis             |                 |  |

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| District 1               |  | State   | e of New Mexico                       | Form C-138  |
|--------------------------|--|---|---------------------------------------|---|
| 1625 N. French Dr., Ho   | bbs, NM 88240                                    | Energy Minera                                 | als and Natural Resour                | ces Revised March 17, 1999                          |
| District II              |  |   |                                       |   |
| 1301 W. Grand Avenue     | , Artesia, NM 88210                              | 0.1.0   |                                       | Subarit 2 Contine to constraints                    |
| District III             | Anton NIM 97410                                  | Oil Co  | nservation Division                   | Submit 2 Copies to appropriate                      |
| District IV              | Aztec, NM 8/410                                  | 1220 S  | outh St. Francis Dr.                  | District Office in accordance                       |
| 1220 S. St. Francis Dr.  | Santa Fe. NM 87505                               | San   | ta Fe, NM 87505                       | side of form  |
| 1220 S. St. Truncis D1., | Sana re, run 67565                               |   |                                       |   |
|                          | REQUE  | ST FOR APPROV                                 | AL TO ACCEPT SO                       | I TO WASTE  |
|                          |  |   |                                       | Generator:  |
| 1. RCRA Exempt:          | X Non-Exen                                       | npt:  |                                       |   |
|                          |  |   |                                       | Originating Site Designation:                       |
| Verbal Approva           | Received?: Ye                                    | s X No  | i i i i i i i i i i i i i i i i i i i | G-28 Loop-2 112002 # 112002                         |
| 2. Management Fa         | cility Designation:                              |   |                                       | 5. Transporter:                                     |
| , J                      | Environmen                                       | tal Plus, Inc. Land Fa                        | nrm #NM-01-0013                       | Environmental Plus, Inc.                            |
| 3. Address of Faci       | Ity Operator:                                    |   |                                       | 7. State  |
|                          | 2100 Avenue                                      | e O, P.O. Box 1558, E                         | unice, NM 88231                       | New Mexico  |
| 8. Location of Mat       | erial (Street Address o                          | ULSTR)  |                                       |   |
| UL-                      | B Section 2                                      | 1 <u>T 22S</u>                                | R 36E                                 |   |
| 9. Circle One:           |  |   |                                       |   |
| $\overline{\bigcirc}$    | A.H  |   |                                       |   |
|                          | All requests for appro<br>Generator; one certifi | ival to accept oilfield exem<br>cate per job. | pt wastes will be accompani           | ed by a certification of waste status from the      |
| В.                       | All requests for appro                           | val to accept non-exempt                      | wastes must be accompanie             | d by the necessary chemical analysis to             |
|                          | PROVE the mateial is                             | s non-hazardous and the (                     | Generator's certification of or       | igin. No waste classified as "HAZARDOUS" by         |
|                          | listing or testing shall                         | be approved.                                  |                                       |   |
|                          | All transporters mu                              | st certify the wastes deli                    | vered are only those consi            | gned for transport.                                 |
| BRIEF DESCRIPT           | ION OF MATERIAL:                                 | ······  |                                       | <u> </u>  |
|                          |  |   |                                       |   |
|                          | Contaminated So                                  | il(s): hydrocarbon re                         | lease involving -                     |   |
|                          | Natural Ga                                       | s release and associa                         | ated NGL's                            |   |
|                          |  |   |                                       |   |
|                          |  |   |                                       |   |
|                          |  |   |                                       |   |
|                          | 4500 3   |   |                                       |   |
| Estimated Volume:        | <b>1500</b> yd°. Kr                              | nown volume (to be entered by                 | the operator at the end of the h      | aul: (yd <sup>°</sup> ) <b>1960</b> yd <sup>°</sup> |
|                          |  |   |                                       |   |
|                          | ( hl   | 11 0  |                                       |   |
| SIGNATURE                | fou  | Hand  | TITLE: EPI Environme                  | ntal Consultant DATE: 11/22/02                      |
|                          | Wasto Manageme                                   | ent Facility Authorized Agent                 |                                       |   |
|                          | V  |   |                                       |   |
|                          |  | John Good                                     |                                       | EDE 204 2401 EAV: EDE 204 0601                      |
|                          |  |   |                                       | 505-394-3481 FAX: 505-394-2001                      |
|                          |  |   |                                       |   |
|                          | ·····  |   |                                       |   |
| (This space for Stat     | e (jee)  |   |                                       |   |
| 1                        | • • • • • •                                      |   |                                       |   |
| APPROVED BY              |  | Т   | TLE:                                  | DATE:   |
|                          |  |   |                                       |   |
| APPROVED BY              |  |   | TLE:                                  | DATE:   |
|                          |  |   |                                       |   |
|                          |  |   |                                       |   |

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"As a condition of acceptance for disposal, I hereby certify that this waste is an <u>exempt</u> waste as defined by the Environmental Protection Agency (EPA) July 1988 Regulatory Determination and to my knowledge, this waste been characterized as "non-hazardous" pursuant to the provisions of EPA 40 CFR Part 261 Subpart C and has not been comingled with an EPA 40 CFR Part 261 Subpart D "Listed Waste."

|           |     | NORM Exposure Rate: < 50 µR/Hour                  |
|-----------|-----|---|
|           | Ι,_ | Paul Mulkey ,the undersigned agent for            |
|           |     | DUKE ENERGY FIELD SERVICES                        |
|           |     | hereby certify that, based on personal knowledge, |
|           |     | the above statement is true and correct.          |
|           |     |   |
| Name      |     | Paul Mulkey                                       |
| Title     |     | Construction/Maintenance Superintendent           |
| Address   |     | 11525 W. Carlsbad Hwy.<br>Hobbs: NM 88240         |
| Signature | _   | Paul Mulkey                                       |
| Date      | _   | Friday, November 22, 2002                         |
|           |     |   |



Initial Response: flow path, east to west angle



Initial Response: east extent of flow path, W to E



Initial Response: flow path, west to east angle

Initial Response: Clamping POR



Initial Response: Clamping POR

