

AP - 29

STAGE 1 & 2 WORKPLANS

DATE:

July, 2001

E.O.T.T. ENERGY PIPELINE

SOIL AND GROUND WATER REMEDIATION PLAN

FOR THE

KIMBROUGH SWEET SITE

Ref.# 2000-10757

SW¼ NE¼ Sec3, T18S, R37E,
~1.8 miles west of Humble City and
7 mile northwest of Hobbs
Lea County, New Mexico
Latitude: 32°46'48"N Longitude: 103°14'18"W

July 2001

Prepared by

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1.0 INTRODUCTION

Environmental Plus, Inc. (EPI), on behalf of E.O.T.T. Energy Corp. (EOTT), hereby submits this Soil and Ground Water Remediation Plan for the Kimbrough Sweet Site located in Lea County, in Unit Letter G, Section 3, Township 18 South, Range 37 East. This plan will serve as a "Work Plan Supplement" as referenced in the draft "General Work Plan for Remediation of EOTT Pipeline Spills, Leaks, and Releases in New Mexico" approved by the New Mexico Oil Conservation Division (NMOCD) on August 1, 2000.

2.0 "EOTT POINT OF CONTACT"

The EOTT "Point of Contact" for this project is:

Mr. Frank Hernandez
District Environmental Supervisor
E.O.T.T. Energy Pipeline
5805 E. Highway 80, Midland, Texas 79701
P.O. Box 1660, Midland, Texas 79702

3.0 PRELIMINARY INVESTIGATION

The initial New Mexico Oil Conservation Division (NMOCD) notification form C-141 submitted to the NMOCD by EOTT reported an unknown volume of crude oil released with 0 barrels recovered. Soil borings at the site, delineated a crude oil contaminated soil column in excess of the NMOCD remedial goals approximately 120' in diameter centered around the leak origin extending vertically to the ground water. A 12" thickness of non-aqueous phase hydrocarbon was observed on the surface of the ground water at approximately 47'bgs in excess of 20 NMAC 6.2.3103, i.e., "Non-aqueous phase liquid shall not be present floating atop or immersed within ground water, as can be reasonably measured." Consistent with the notification requirements of 19 NMAC 15.116, the NMOCD offices in Santa Fe and Hobbs, New Mexico were notified of the impact on March 5, 2001. The sample location map, original laboratory analytical reports, data summaries, and illustrations are provided in Attachment I.

3.1 MITIGATION

To mitigate continued ground water impact, the decision was made May 2001 to excavate the grossly contaminated soil down to the 15'bgs interval, shred to aerate, apply bio-remediation accelerants, and stockpile on 10 mil plastic and is consistent with the soil remediation strategy discussed in section 3.2. The initial soil volume estimate was based on the affected area perimeter and was calculated to be 8,674 yd³, however during excavation of the site, an additional 7,869 yd³ of contaminated soil was identified and removed.

3.2 SOIL REMEDIATION STRATEGY

The most reasonable remediation strategy is one that considers effectiveness, timeliness, efficiency, and safety of the process. For the purpose of discussion, removal of 100% of the source term would require an excavation with ramped ingress/egress to be constructed with a diameter of at least 225' and depth of 47'. For an excavation >20'bgs, the Occupational Safety and Health Administration (OSHA) requires that a Professional Engineer design and certify an excavation safety plan. Sloping and benching requires moving clean soil. Similarly, deep excavations require extended periods of time to complete. While removal is the most effective remediation alternative it is not appropriate for this site because it is not timely, efficient, nor inherently safe. It is reasonable

therefore to manage the near surface contaminated soil, i.e., <15'bgs differently than contaminated soil >15'bgs. It is proposed to install an impermeable compacted clay barrier at the 15'bgs interval to isolate the soil >15'bgs. The treated soil currently stockpiled on site will be placed on top of the barrier forming an "in-situ" passive bio-cell. The barrier provides the necessary containment of vertical migration of the source terms and provides for and supports a viable conservative "risk assessment" of the remaining source term on either side of the barrier.

3.2.1 Remediation of Soil >15'bgs

It is proposed that an oversized compacted impermeable clay barrier be installed above the source term at roughly the 15' bgs interval to isolate the crude oil contaminated soil >15'bgs. The barrier will be installed in 1-foot thick lifts with the density of each lift tested to be at least 95% of the Proctor for the clay. Currently, it is contemplated to remediate the contaminated soil >15'bgs by installing a vapor recovery system with a single extraction point and eight perimeter induction points with alternating screened intervals. Monthly monitoring of the exhaust with a calibrated photoionization detector (PID) will document attenuation.

3.2.2 Remediation of Soil <15'bgs

During the Mitigation Phase of the project, contaminated soil was excavated, mechanically shredded and aerated, and treated with bio-enhancing nutrients and microbes. Currently this soil is stockpiled on plastic within the fenced site. The attenuation process has begun. It is proposed that this treated soil be placed back into the excavated area overlaying the impermeable barrier to be installed at 15'bgs. The bio-cell thus constructed would be monitored quarterly to document attenuation and ultimate achievement of the NMOCD remedial goals. The development of a conservative "risk assessment" taking credit for the barrier may indicate acceptable concentrations for the constituents of concern, i.e., Total Petroleum Hydrocarbon, Benzene, Toluene, Ethylbenzene, and Xylenes that are >the NMOCD guideline thresholds.

3.3 INTERIM GROUND WATER INVESTIGATION

To guide the placement of the extraction/recovery wells, it is necessary to install 3 perimeter monitor wells as soon as possible. These wells will provide, after the engineered survey, accurate references for determining the strike and dip of the ground water gradient at the site. The proposed locations form a triangle with one up dip and two down dip of the assumed ground water gradient. The well siting map is included as Attachment II. Plume delineation wells will also be installed.

3.4 PRODUCT RECOVERY

Subsequent to the installation of the perimeter monitor wells, the recovery system well locations will be proposed and after consensus with the NMOCD, installed and activated. The recovery pumps will be pneumatically powered internally sensing skimmer type pumps capable of up to two gallons per minute and should initially minimize water production. These wells will also serve as ground water monitor wells to define the initial contamination plume and quarterly monitoring access points. All wells are to be 4" PVC installed according to the RCRA monitoring well guidelines consistent with the NMOCD protocols.

3.5 GROUND WATER REMEDIATION

As product recovery decreases and ground water increases, it is proposed that the water be aerated and reintroduced into the saturated zone. This will promote volatilization and bio-attenuation.

4.0 SITE GENERATED WASTES

Wastes generated during installation, investigation, monitoring, and recovery activities will be contained appropriately and disposed of in an approved NMOCD facility. If a waste has a recycling potential, the NMOCD will be petitioned to do so.

5.0 QUALITY ASSURANCE PROJECT PLAN

This Quality Assurance Plan (QAP) will ensure the quality and usability of information and data used to support a successful site investigation and subsequent environmental management decisions.

5.1 PROJECT SAFETY

Hazards that will be encountered at this site include the following:

- Moving equipment
- Buried pipelines
- Rotary Equipment
- Highway ingress/egress
- Excavation
- Potential Hydrogen Sulfide Gas

Prior to drilling or excavation, NEW MEXICO ONE CALL will be notified of activities, who will provide a list of Companies they will notify and a ONE CALL confirmation number. Employees and subcontractors will be required to confirm current training in these hazards. Standard personal protective equipment will include;

- Personal H₂S Monitor
- Hard-hat
- Steel Toed Boots/Shoes and gloves

5.1.1 Historical Use

The area has been used historically for livestock grazing and access to oil and gas production facilities.

5.1.2 Site Description

The site is owned by Gerald Pistole, situated in the SW¼ of the NE¼ of Sec3, T18S, R37E, and is ~1.8 miles west of Humble City and 7 mile northwest of Hobbs, Lea County, New Mexico. The Latitude is 32°46'48"N and Longitude 103°14'18"W. The EOTT site reference identification number is "2000-10757." The visibly contaminated surface area, i.e., 15,613 ft² was presumed initially to be the horizontal extent of contamination. The leak occurred in a low area with an active population of "Black-tailed Prairie Dogs." The line apparently failed due to internal corrosion and was repaired with a line clamp. Following repair, an estimated 1200 yd³ of the saturated surface soil was pushed into a pile in the affected area.

5.1.3 Ecological Description

The area is typical of the Lower Great Plains Biome consisting primarily of Honey Mesquite (*Prosopis glandulosa*) along with typical desert grasses and weeds. Netleaf Hackberry trees occur in the lower drainages. Mammals represented include Orrd's and Merriam's Kangaroo Rat, Deer Mouse, White Throated Wood Rat, Cottontail Rabbit, Black-tailed Prairie Dog, Black-tailed

Jackrabbit, and the Mule Deer. Reptiles, Amphibians, and Birds are numerous and typical of area. A survey of Listed, Threatened, or Endangered species was not conducted.

5.2 ENVIRONMENTAL MEDIA CHARACTERIZATION

Chemical parameters of the soil and ground water will be characterized consistent with the New Mexico Oil Conservation Division (NMOCD) guidelines published in the following documents as applicable;

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

Normally acceptable thresholds for contaminants of concern (CoC), i.e., TPH and BTEX are determined based on the following;

- 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 down gradient surface water bodies.

However, site specific risk based thresholds will be developed.

5.2.1 Area Ground Water Levels

According to the New Mexico State Engineers Office, the uppermost aquifer is the Ogallala and occurs in the area between 36' and 47' bgs. The water level at the site is 47.3'bgs.

5.2.2 Water Well Inventory

The New Mexico State Engineers Office in Roswell, New Mexico has the following wells recorded. There are no wells recorded in Section 3 T18S and R37E.

| Township | Range | Section | Feet bgs |
|----------|-------|---------|----------|
| 18S | 37E | 1 | 47 |
| 18S | 37E | 5 | 36 |
| 17S | 37E | 34 | 76 |
| 17S | 37E | 34 | 62 |
| 17S | 37E | 34 | 55 |
| 17S | 37E | 34 | 60 |

5.2.3 Water Wells Actually or Potentially Affected by the Pollution
Included in Attachment IV is a map of area wells. A reconnaissance survey will be conducted to identify unknown or actually or potentially affected water wells in the area.

5.2.4 Aquifer Recharge

The Ogallala in this region is maintained through surface recharge during precipitation events.

5.2.5 Depth to Ground Water Calculation

The NMOCD requires the site be ranked to determine which soil TPH threshold will apply and defines depth to ground water as, "the vertical distance from the lowermost contaminants to the seasonal high water elevation of the ground water." The uppermost occurrence of ground water is at 47.3' bgs. The lower most contamination occurs at the interface of the vadose zone and the water table. The calculated NMOCD depth to ground water is essentially 0.0' bgs.

5.2.6 Ground Water Gradient

The spill area is located within a southeastwardly trended drainage. The ground water gradient is expected to have a similar tilt.

5.2.7 Wellhead Protection Area

There are no water wells within 1000' of the site.

5.2.8 Distance to Nearest Surface Water Body

None present.

5.2.9 Seasonal Stream Flow Characteristics

There are no streams located at the site, however, during rain events the site drains southeastward down the valley/draw.

5.3 DATA QUALITY OBJECTIVES

For analytical information derived from samples, the following quality controls will be documented and verified. If data is within the specifications it will be deemed quantitative and acceptable for use in making environmental management decisions.

- Laboratory data must have extraction recovery for TPH, BTEX and general chemistry parameters $\leq 30.0\%$. Or a "%Extraction Accuracy" between 70 and 130%.
- Laboratory data must have $< 30\%$ Relative Percent Difference or a "%Instrument Accuracy" between 70 and 130%.
- Field headspace analyses must be supported with instrument calibration data and calibration gas certification.

5.3.1 Methodology

Collecting representative site samples and information requires that the sampling and observational processes and procedures be implemented within strict bounds. These control procedures will further ensure the quality of site data and information and are consistent with the EOTT standard operating procedures as referenced in the NMOCD approved "General Work Plan for Remediation of EOTT Pipeline Spills, Leaks, and Releases in New Mexico." Likewise, personnel will implement standard environmental and occupational safety protocols.

5.3.1.1 Borehole Drilling, Lithologic Sampling, Logging, and Abandonment

Boreholes will be located strategically to best determine vertical and horizontal extent of contamination in the vadose zone and ground water. Borelogs will be developed for each boring noting site lithology. Likewise, laboratory samples may be collected to determine more detailed lithologic characteristics, i.e., porosity, transmissivity, etc. Each borehole not developed into a

permanent monitor well will be plugged with Sodium Bentonite in accordance with the NMOCD guidelines.

5.3.1.1.1 General Drilling Procedures

The investigation will use the Environmental Plus, Inc. drill rig with hollow stem auger and "thin-wall probe" method of discrete sampling.

5.3.1.1.2 Soil Sampling and Logging

Upon advancing to the desired sampling interval the probe will be extended through the end of the hollow stem auger and pushed into the soil matrix to collect the sample. As the 1.5" X 48" stainless steel probe with a vinyl sampling sleeve is detached from the sampling bar, it will be immediately placed on the rack and logged. A 4 oz. sample will then be decanted into the sample jar for refrigeration and preparation with the remainder (~1 Kg) placed in a 1 gallon Ziplock bag, warmed to ambient ~ 70-80 °F and VOC Headspace concentration measured and recorded. All pertinent information will be recorded on the field borelog data sheet.

5.3.1.1.3 Monitor and Pollution Abatement Well Installation

Boreholes exhibiting contamination from the surface to ground water will be abandoned. Those advanced down gradient of the site for the purpose of plume delineation and found to be unimpacted will be completed and developed as monitor wells. Some boreholes may be temporarily abandoned, i.e., covered but not plugged, for future development as pollution abatement wells. The New Mexico State Engineers Office will be notified in writing of all pollution abatement well installations and water rights acquired. All monitor and pollution abatement wells will be installed and developed in accordance with the NMOCD guidelines.

5.3.1.1.4 Ground Water Sampling

Ground water will be sampled within 24 hours of well development using a new and certifiably clean one-liter weighted baler. The water will be immediately decanted into the appropriate containers and prepared for ascension to the laboratory.

5.3.1.1.5 Borehole Abandonment

The boreholes will be filled with a mixture of distilled water and Sodium Bentonite and a wooden marker denoting the borehole number driven into the center of each backfilled hole.

5.3.1.2 Sample Handling

Soil and water samples will be collected and prepared in accordance with accepted ASTM and EPA SW846 methods.

5.3.1.3 Sampling protocols

1. Decontaminate sampling equipment and area with Alconox distilled water after each sample.
2. Prepare samples and refrigerate as soon as practicable.

Duplicates or blanks may be submitted to the laboratory to establish reproducibility and identify laboratory contamination, respectively.

5.3.1.4 Sample Containers

Laboratory and field analyses of soil and water require specific containers and are listed in the matrix below.

| | TPH | BTEX | VOC Headspace | Metals | PAH | General Chemistry |
|-------|-----------------------------------|--------------------------------|------------------------------|--|---------------------------|----------------------|
| Soil | 4 oz. Jars with Teflon seal | 4 oz. Jars with Teflon seal | 1-gallon Ziplock® bags | | | |
| Water | 1 liter amber glass w/HCL | 2-40 ml VOA vials w/ HCL | | 16 oz. Plastic w/ 1ml HNO ₃ | 1 liter Amber Glass | 1 liter Plastic |

5.3.1.5 Sample Custody

All analytical request forms will be completed and signed by EPI as sampler. EPI personnel will ascend the samples to the laboratory sample-receiving personnel under chain-of-custody signature.

5.3.1.6 Quality Control Samples

Quality control samples will be analyzed to ensure data quality.

5.3.1.6.1 Field Blank

A field blank for soil or water is not deemed necessary.

5.3.1.6.2 Equipment Blank

None will be collected.

5.3.1.6.3 Field Duplicate or Co-located Samples

For water and soil samples, one duplicate or co-located sample will be collected for analysis every 10th sample.

5.3.1.6.4 Trip Blank

A laboratory prepared trip blank will accompany each water sample batch.

5.3.1.7 Field Measurements

The VOC Headspace concentration for each soil sample will be measured. The instrument used will be the Ultra-Rae PID manufactured by Rae Systems. The calibration gas will be 100.0 ppm isobutylene standard from Scott Specialty Gases, Freemont, Colorado.

5.3.1.7.1 Equipment Calibration and Quality Control

The PID will be calibrated at least 3 times daily and checked with the calibration gas hourly. When a check with the calibration gas indicates the instrument reading is 10 ppm too high or low it will be calibrated. Variation in the daytime ambient temperature will cause the variation.

5.3.1.7.2 Equipment Maintenance and Decontamination

All sampling and survey equipment will be routinely decontaminated between samples. Nitrile gloves will be worn and changed with each sampling iteration.

5.3.1.7.3 Ground Water Level Measurements

Ground water levels will be taken with an accurate water level meter at each borehole where ground water is encountered and may require the use of an interface meter. Levels will be recorded as "feet below ground surface" to the nearest ".1 ft." and will be recorded as "TOC," i.e., top of casing.

5.3.1.8 Analyses

Soil and ground water will be analyzed in accordance with the following EPA Methods.

The analytical suite for soil samples will include;

- TPH (EPA method 8015M)
- BTEX (EPA method 8020 or equivalent)
- SPLP for selected samples

The analytical suite for water samples will include:

- TPH (EPA method 8015B)
- BTEX (EPA method 8021B)
- Total Dissolved Solids (EPA method 150.1)
- PAH (EPA method 8270)

5.3.1.9 Sample Identification

Sample identification numbers will be designated as follows;

| Site: EOTT LL | Date | Borehole # | Interval bgs | Qualification: Cutting/Probe Sample |
|---------------|--------------|------------|--------------|--|
| KS | June 3, 2001 | 1 | 20' | C or P |

Example: KS6301BH1-20C

5.3.1.10 Data Evaluation

All data will be reviewed based on the Data Quality Objectives in section 3.8.1.

5.4 IDENTIFICATION OF REMEDIAL ACTION LEVELS

Typical remedial goals for soil in this area which would normally be in accordance with the NMOCD published guideline thresholds could justifiably be increased based on the site specific risk based assessment.

5.4.1 Site Ranking

The area has the following score and site ranking;

Depth to Groundwater / <50' = 20

Wellhead Protection Area / <200' = 0

Distance to Surface Water Body / <200' = 0

Site Ranking = 20

5.4.2 Remedial Action Levels

The typical remedial action objectives for soil at this site according to the NMOCD guidelines would be as follows.

- TPH – 100 mg/Kg
- BTEX – 50 mg/Kg
- Benzene – 10 mg/Kg

However, objective site specific risk based thresholds will be developed. The WQCC ground water MCLs for COCs will apply to site ground water.

5.5 MONITORING PROGRAM (19NMAC15.A.19.E(3)C)

The Monitoring Program will be a part of this Soil and Ground Water Remediation Plan. Data will be summarized into quarterly reports documenting progress and status and submitted to the NMOCD Environmental Bureau Santa Fe and Hobbs offices.

5.5.1 Ground Water Monitoring

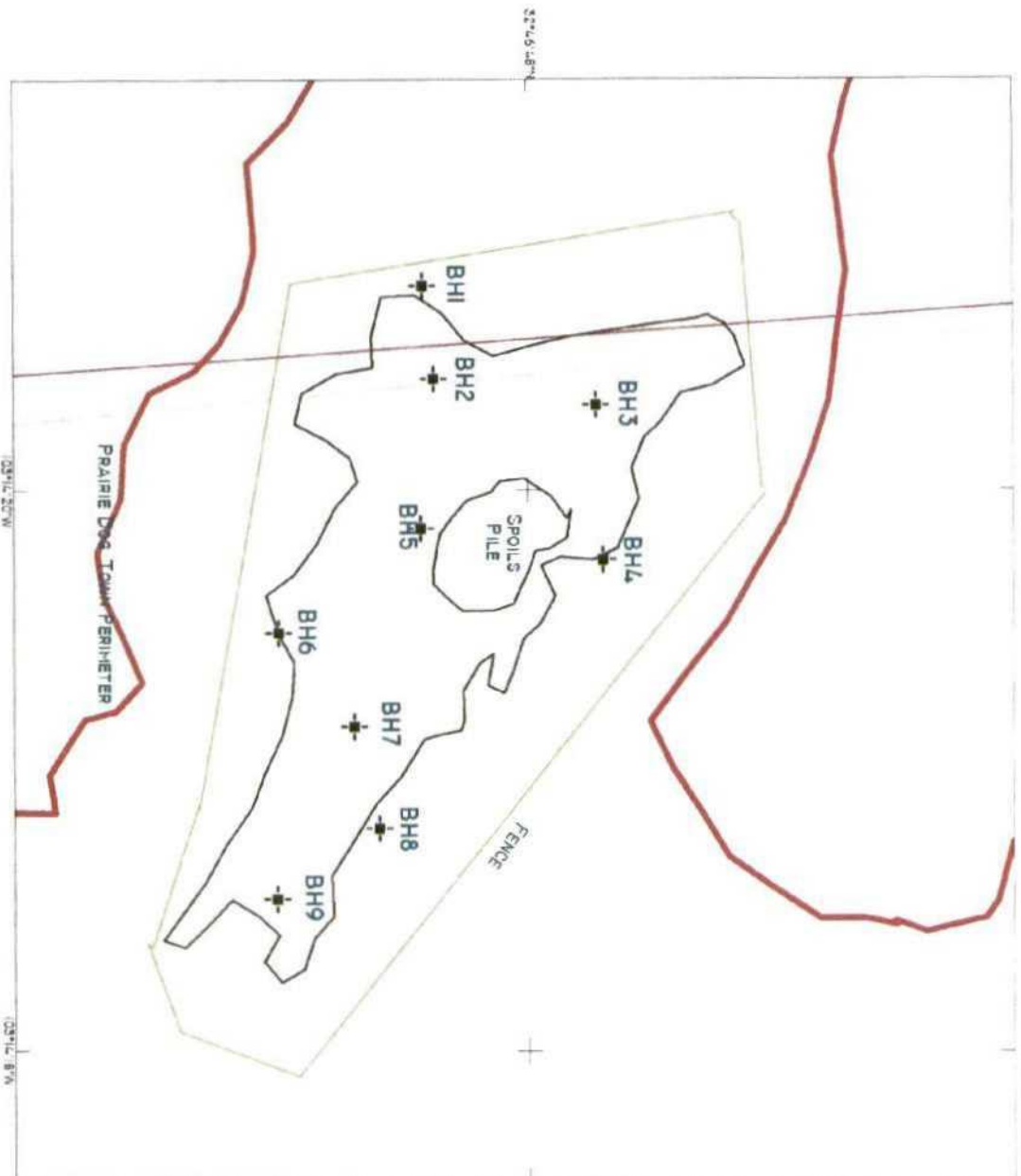
The monitor wells installed at the site will be sampled at least quarterly for TPH and BTEX.

5.5.2 Soil Bio-Cell Monitoring

The Bio-Cell soil will be monitored quarterly for TPH and BTEX. Samples will be obtained at 5'bgs intervals in quadrants separated by the cardinal radians.

Attachment I: Preliminary Assessment Information

E.O.T.T.
ENERGY PIPELINE
KIMBROUGH
SWEET
UL-G SEC 3
T18S R37E
SAMPLE
BOREHOLE
LOCATIONS



N

SCALE 1 IN = 50 FT

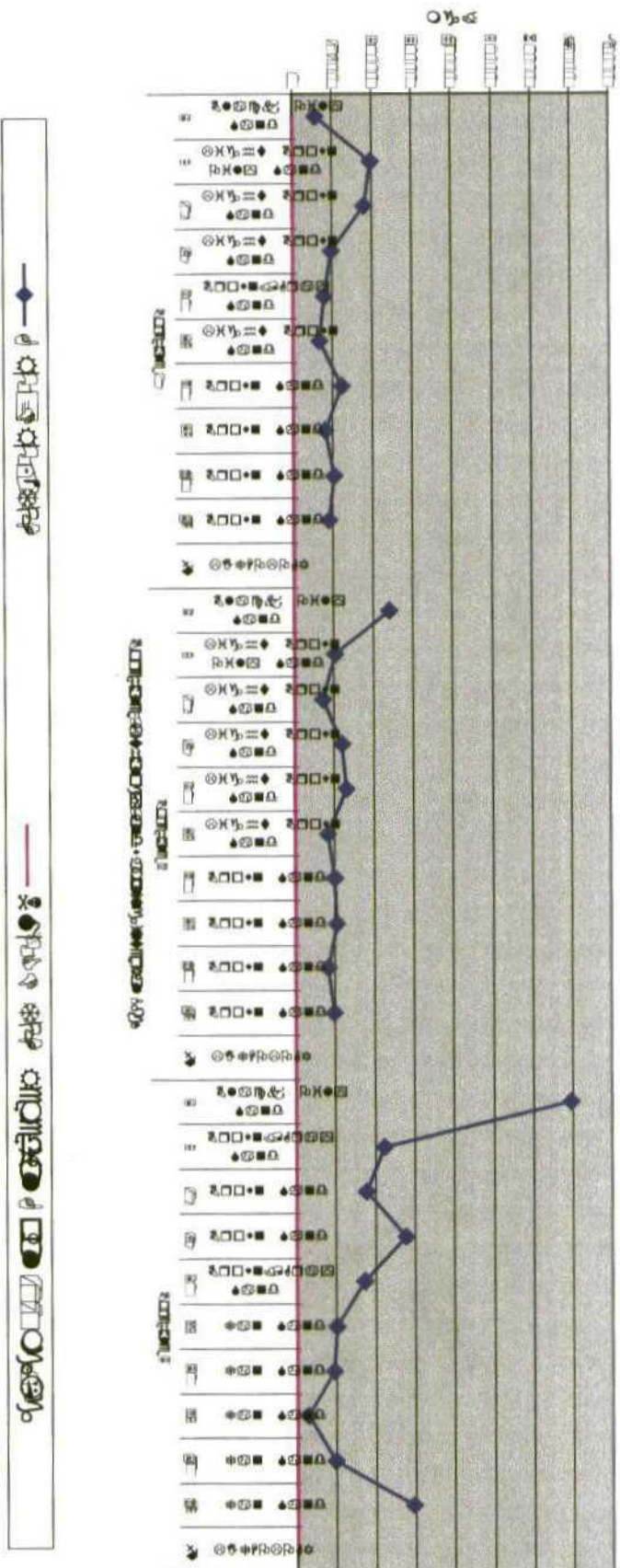


LAT/LONG
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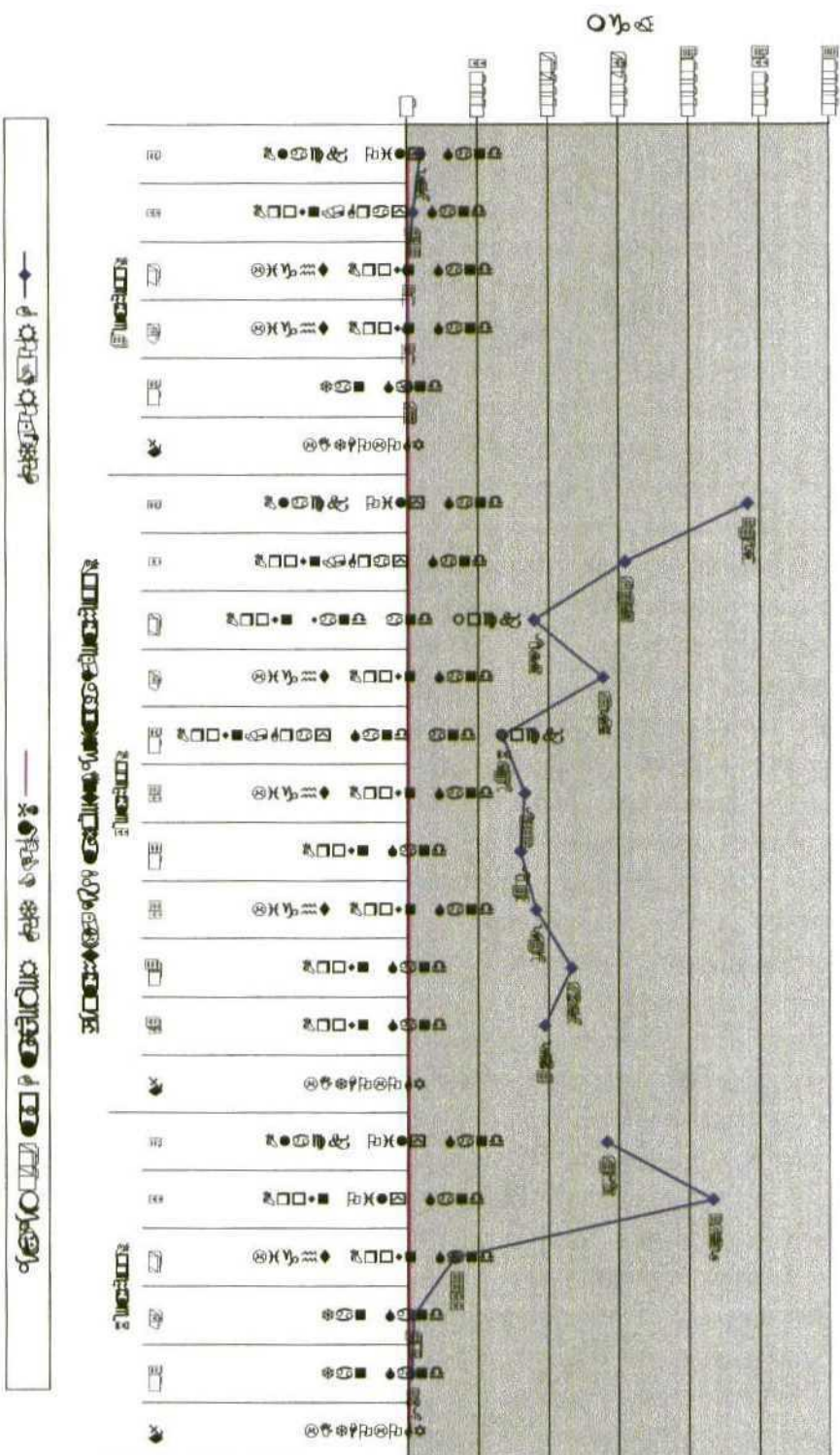
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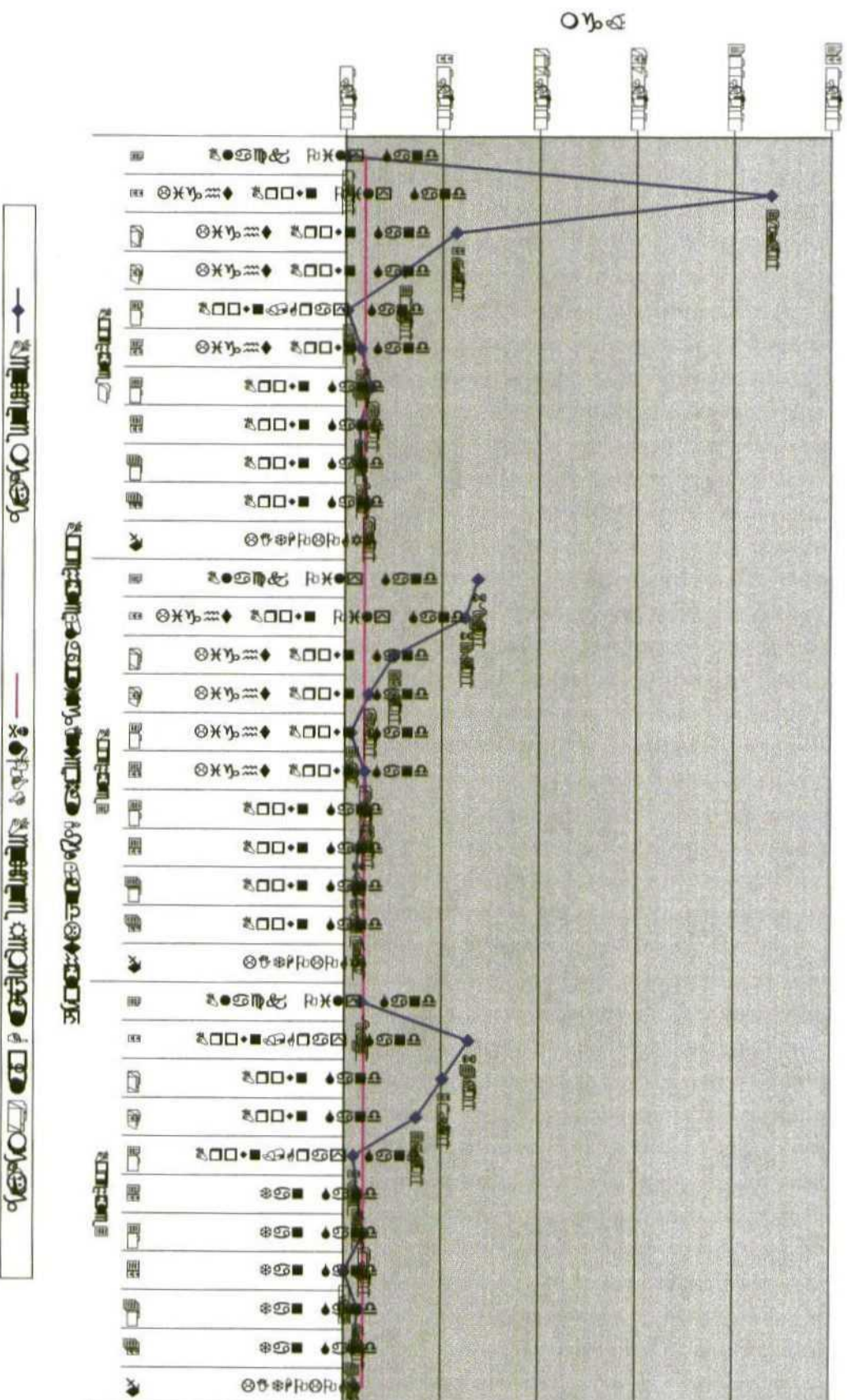


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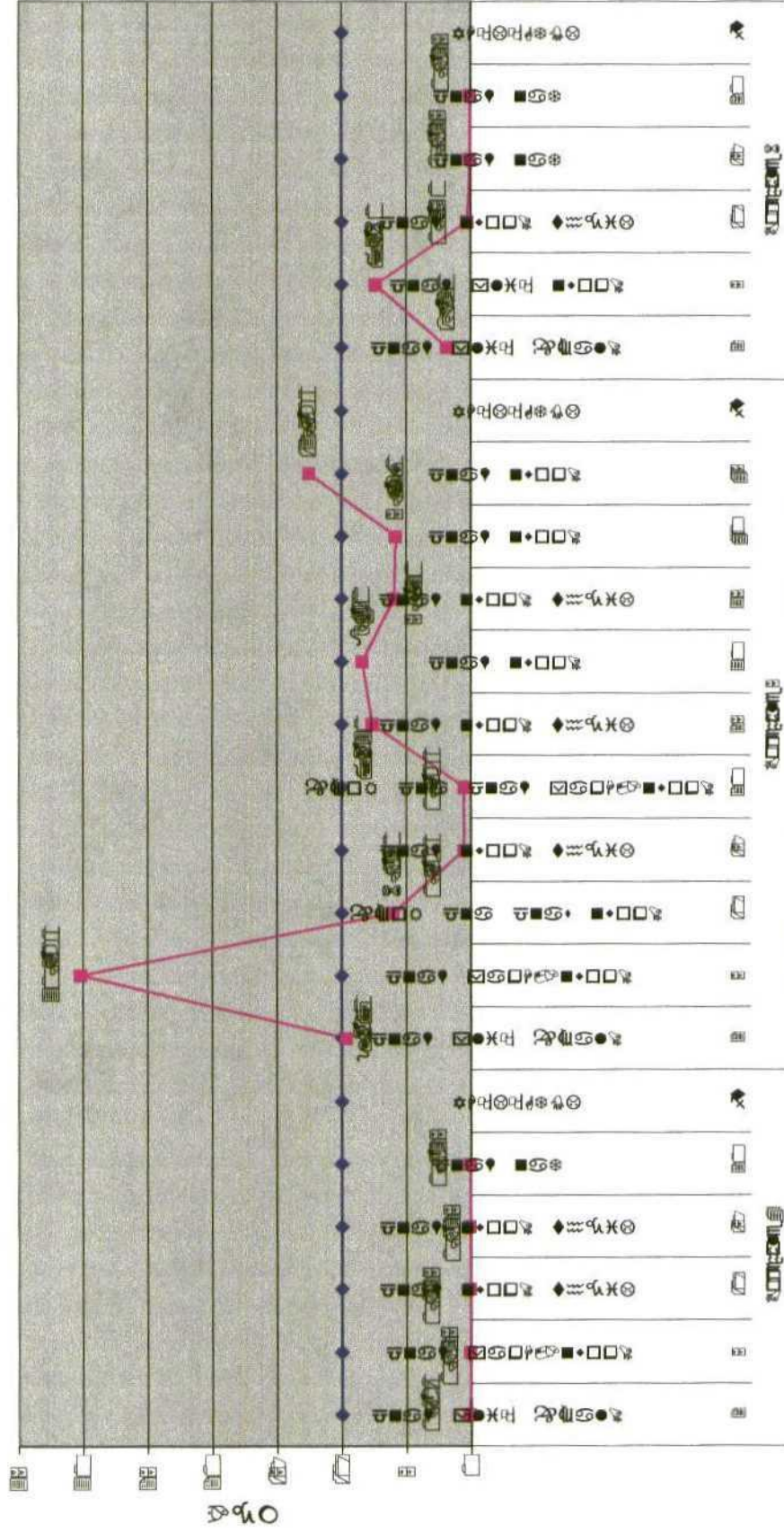




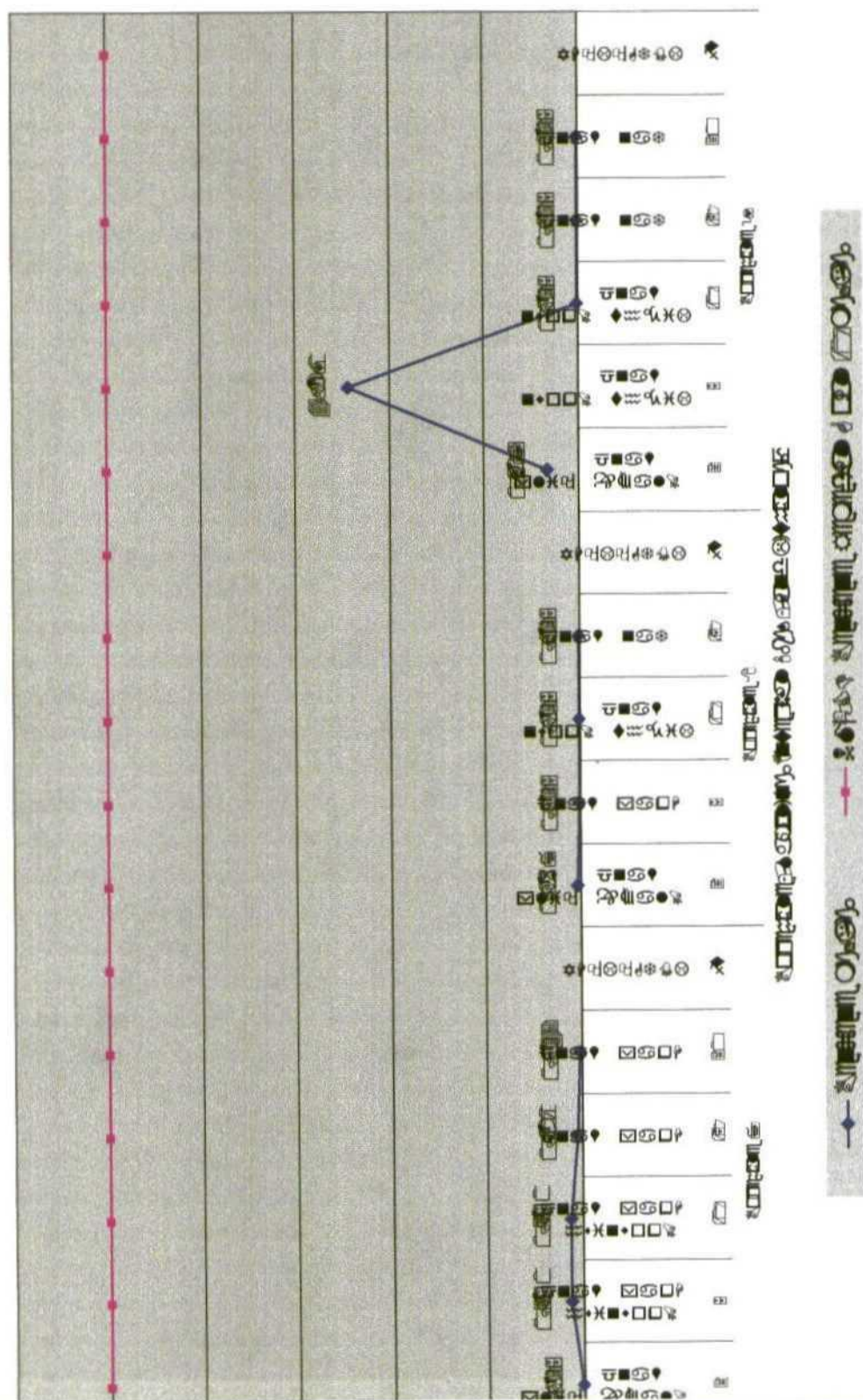
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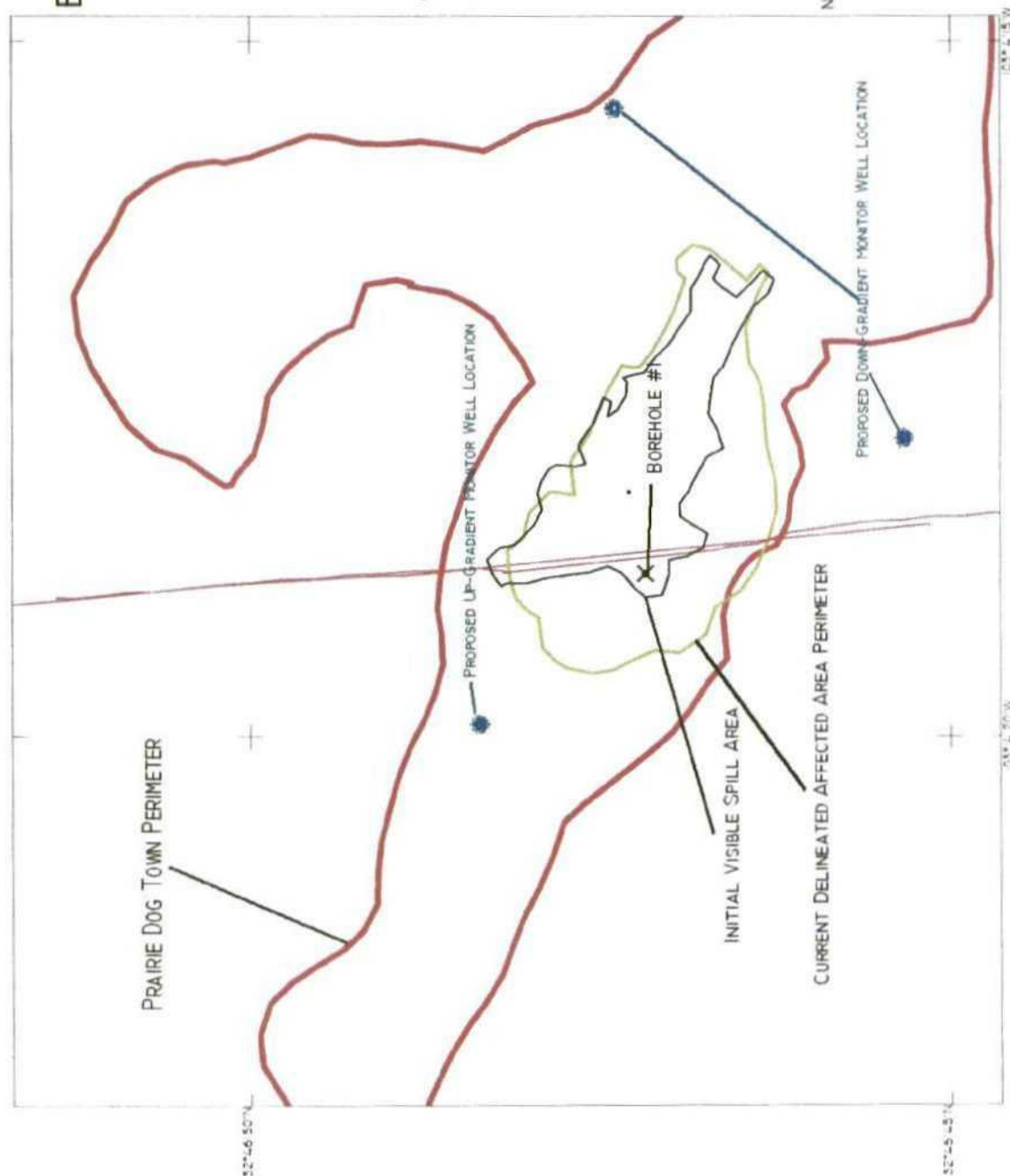


1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.



Attachment II: Figures and Maps

E.O.T.T.
ENERGY PIPELINE
KIMBROUGH
SWEET 6"
N/2 SECTION 3
T18S R37E
INITIAL VISIBLE
SPILL AREA
~15,613 SQFT
EXCAVATED
AFFECTED AREA
~29,778 SQFT



N

SCALE 1 IN : 100 FT



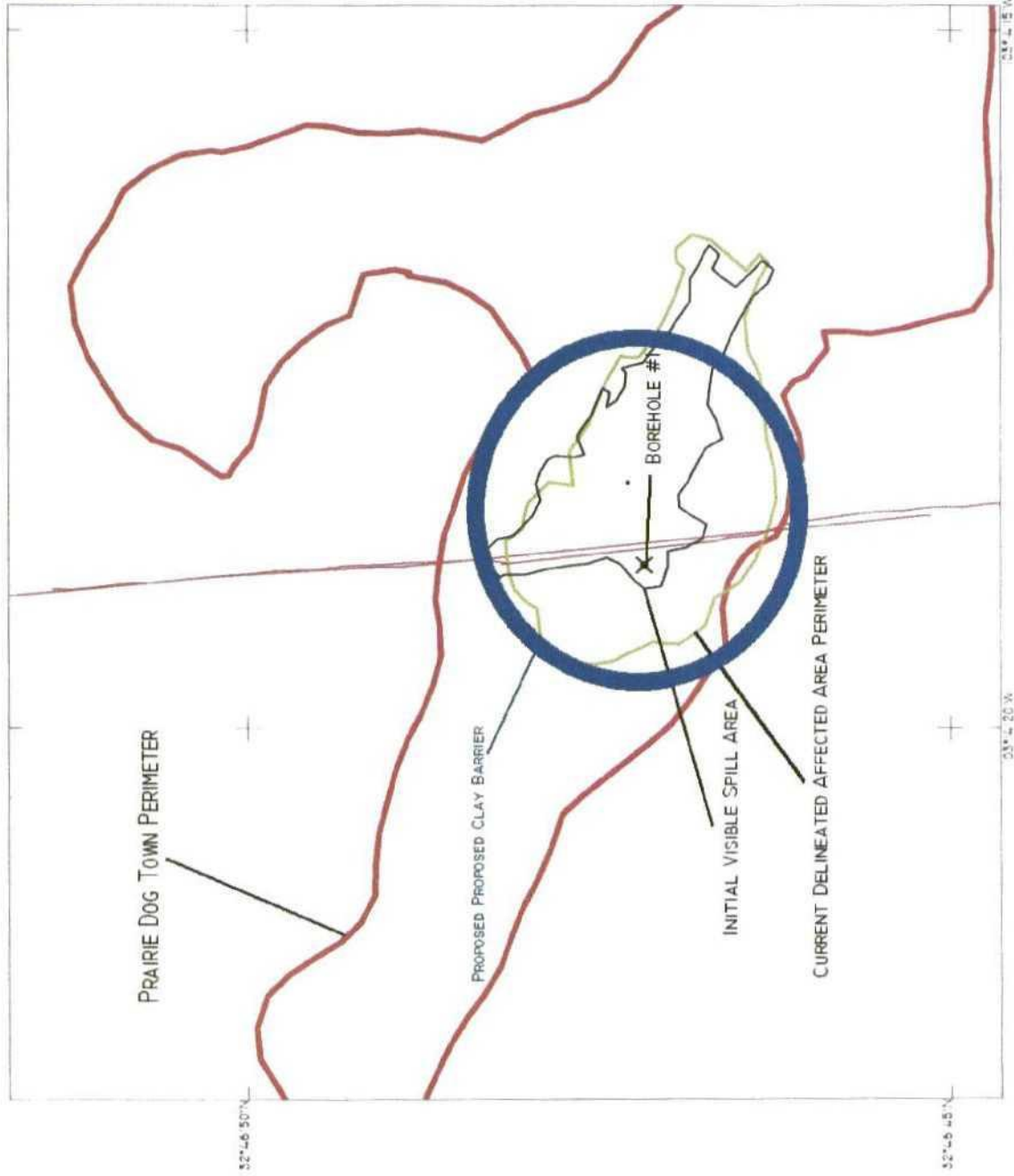
FEET

LAT/LONG
NAD 1927 (WESTERN US)

MULTIPLE FILES
6/19/2001



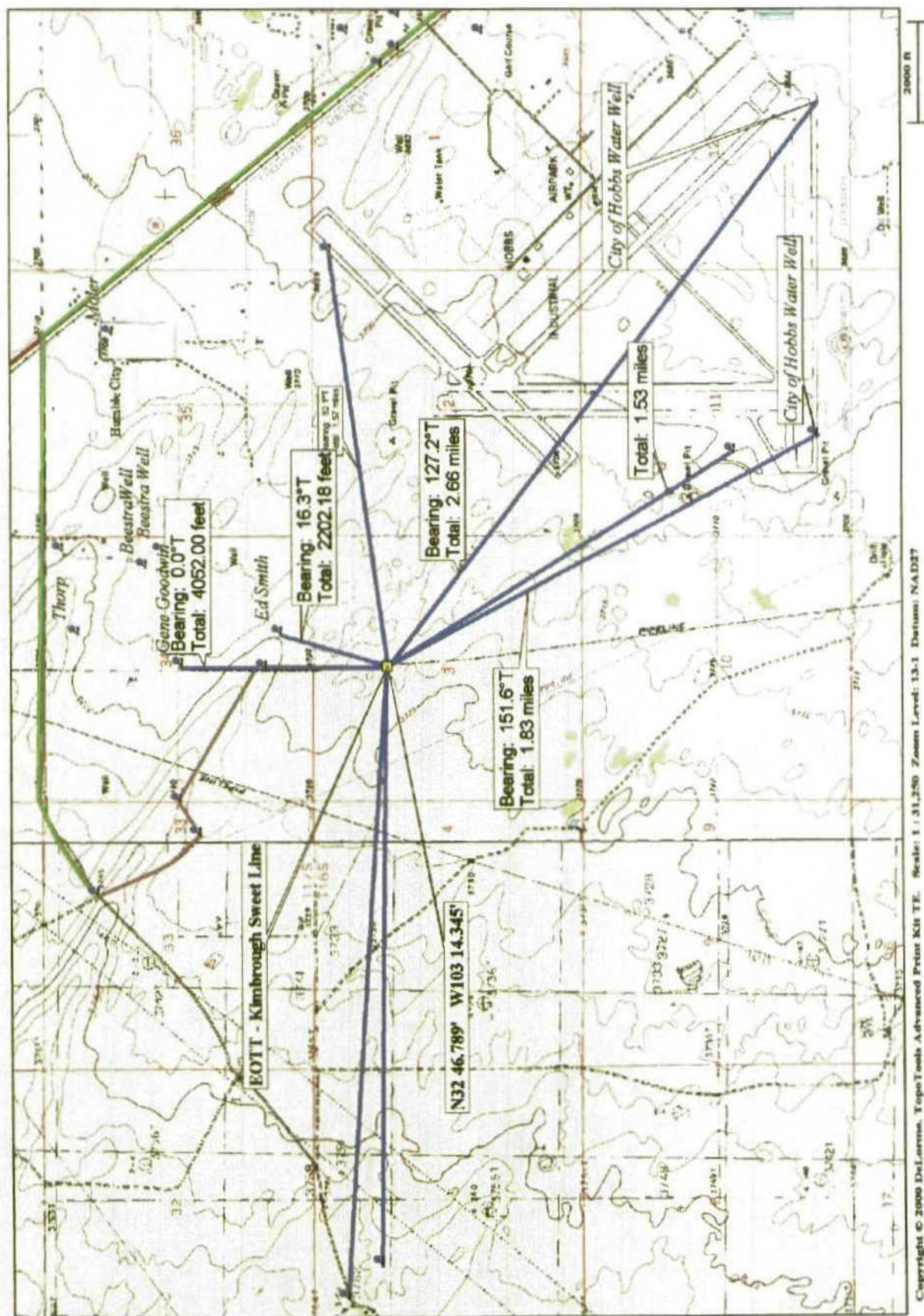
E.O.T.T.
ENERGY PIPELINE
KIMBROUGH
SWEET 6"
N/2 SECTION 3
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INITIAL VISIBLE
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~15,613 SQFT
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LAT/LONG
NAD 1927 (WESTERN US)

MULTIPLE FILES
6/19/2001





Attachment III: Site Photographs



Attachment IV: Site Information and Metrics Form

Site Information and Metrics

| | | | |
|--|---------|---|----------|
| SITE: Kimbrough Sweet | | Assigned Site Reference #: 2000-10757 | |
| Company: EOTT | | | |
| Company Street Address: 5805 E. Highway 80, Midland, Texas 79701 | | | |
| Company Mailing Address: P.O. Box 1660 | | | |
| Company City, State, Zip: Midland, Texas 79702 | | | |
| Company Representative: Frank Hernandez | | | |
| Company Representative Telephone: 915.556.0190 | | | |
| Company Telephone: 915.684.3451 Fax: 915.687.2713 | | | |
| Fluid volume released (bbls) = 5 | | | |
| >25 bbls: Notify NMOCDD verbally within 24 hrs and submit form C-141 within 15 days. (Also applies to unauthorized releases >500 mcf Natural Gas) | | | |
| 5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas) | | | |
| Leak, Spill, or Pit (LSP) Name: EOTT Gathering System | | | |
| Source of contamination: Pipeline Leak | | | |
| Land Owner, i.e., BLM, ST, Fee, Other: Gerald Pistole | | | |
| LSP Dimensions: affected area = 15,613 ft ² | | | |
| LSP Area = 15,613 ft ² | | | |
| Location of Reference Point (RP): | | | |
| Location distance and direction from RP: | | | |
| Latitude: 32° 46'48"N | | | |
| Longitude: 103°14'20"W | | | |
| Elevation above mean sea level: ~ 3720 amsl | | | |
| Feet from South Section Line | | | |
| Feet from West Section Line | | | |
| Location- Unit or 1/4 = SE 1/4 of the NE 1/4 | | | |
| Location- Section = 3 | | | |
| Location- Township = 18S | | | |
| Location- Range = 37E | | | |
| Surface water body within 1000' radius of site: | | | |
| Surface water body within 1000' radius of site | | | |
| Domestic water wells within 1000' radius of site: None | | | |
| Domestic water wells within 1000' radius of site | | | |
| Agricultural water wells within 1000' radius of site: | | | |
| Agricultural water wells within 1000' radius of site | | | |
| Public water supply wells within 1000' radius of site: None | | | |
| Public water supply wells within 1000' radius of site | | | |
| Depth from land surface to ground water (DG): ~47' bgs | | | |
| Depth of contamination (DC): The lower most contamination >100 mg/Kg occurs ground water interface | | | |
| Depth to ground water (DG - DC = DtGW) 0.0' bgs | | | |
| 1. Ground Water | | 2. Wellhead Protection Area | |
| If Depth to GW <50 feet: 20 points | | If <1000' from water source, or; <200' from | |
| If Depth to GW 50 to 99 feet: 10 points | | private domestic water source: 20 points | |
| If Depth to GW >100 feet: 0 points | | If >1000' from water source, or; >200' from | |
| | | private domestic water source: 0 points | |
| Ground water Score = 20 | | Wellhead Protection Area Score = 0 | |
| Site Rank (1+2+3) = 20+0+0 = 20 points | | Surface Water Score = 0 | |
| Total Site Ranking Score and Acceptable Concentrations | | | |
| Parameter | >19 | 10-19 | 0-9 |
| Benzene ¹ | 10 ppm | 10 ppm | 10 ppm |
| BTEX ¹ | 50 ppm | 50 ppm | 50 ppm |
| TPH | 100 ppm | 1000 ppm | 5000 ppm |
| ¹ 100 ppm field VOC headspace measurement may be substituted for lab analysis | | | |