File

Merit Energy
Keel-A Well #29
Work Plan
SW ¼ SW ¼ of Section 7
Township 17S, Range 31E
Eddy County, New Mexico

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Prepared for:

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I. Purpose

The purpose of this work plan is to propose a remedial course of action for two crude oil releases associated with the Merit Energy "Keel-A Well #29" site. The site is located in the SW corner of Section 7 Township 17S Range 31E, Eddy County, New Mexico. Both surface releases (divided by the well location access road) are situated on sloped surfaces.

II. Background

The subject site is adjacent to an active oil well location (Keel-A Well #29). This is a historical release, thus the date of occurrence and release volume is unknown.

III. Contaminant and Size of Area

The contaminant is unprocessed crude oil. The releases extended in two areas beyond the well pad. One release is east of the pad and one release is southeast of the pad. The southeast release is associated with a valve assembly on an abandoned flow line. Both areas have significant surface "asphaltine" present. (Site Plan)

The crude oil associated with these releases is considered RCRA Exempt oilfield waste. No evidence of other contaminants was observed.

IV. Vertical and Horizontal Extent of Contamination

The vertical extent of the contamination was determined by the excavation and sampling of five test trenches within the flow paths of the two releases. Samples were taken at 1-ft intervals down to 4-ft bgs. Field analytical results ($TPH^{418.1}$) are included as Table 3.

V. Groundwater

There is no groundwater of record in the area according to information received from the New Mexico State Engineer.

VI. Action Plan

Based on visual observations, the cleanup level reached by the application of the **"Guidelines for Remediation of Leaks, Spills and Releases"** *New Mexico Oil Conservation Division* – August 13, 1993 (Guidelines) to this site is 5000 ppm TPH. Application of the NMOCD's ranking criteria for contaminated soils at this site is presented below.

Depth to Ground Water: (>100-ft bgs)	0 points
Distance to Well Head or Water Source: (>1000-ft)	0 points
Distance to Surface Water/Waterways: (>1000-ft)	0 points
Total Score:	0 points

SESI proposes a risk based closure for this site. SESI proposes to remediate this site by transferring and encapsulating the contaminated soil from the 0' – 4' zone (also any contaminated soil subsequently discovered below that depth), and then restoring the surface with 3 to 5-ft of clean sandy soil obtained from within the release extents. The contaminated soil will be removed and stockpiled, clean soil will be deep excavated from

one or more locations within the extents and stockpiled. The contaminated soil will then be placed into the deep excavation(s) and encapsulated with either a 40-mil polyethylene liner or a 2-ft compacted clay barrier. The top barrier level will be no closer to the final surface than 5-ft. Removal of contaminated soil will be confirmed by adequate composite sampling within sub-divisions of the total release areas. Confirmation samples will be analyzed by Cardinal Laboratories, Hobbs, NM for TPH (Method 8015) and BTEX (Method 8260). Final re-seeding of the affected areas will be at the direction of the Bureau of Land Management.

Two additional remedial options for this site have been evaluated by SESI. Both of these options are considered less desirable than the proposed action plan. These additional options are:

- Excavation/Disposal/Replacement of contaminated soil above the 5000-ppm action level for this site. SESI does not recommend this method due to the inordinate disposal expense involved. Total volume removed would be 3000 to 5000 yd^3. The disposal and transportation expense alone would be $55,000 to $90,000.

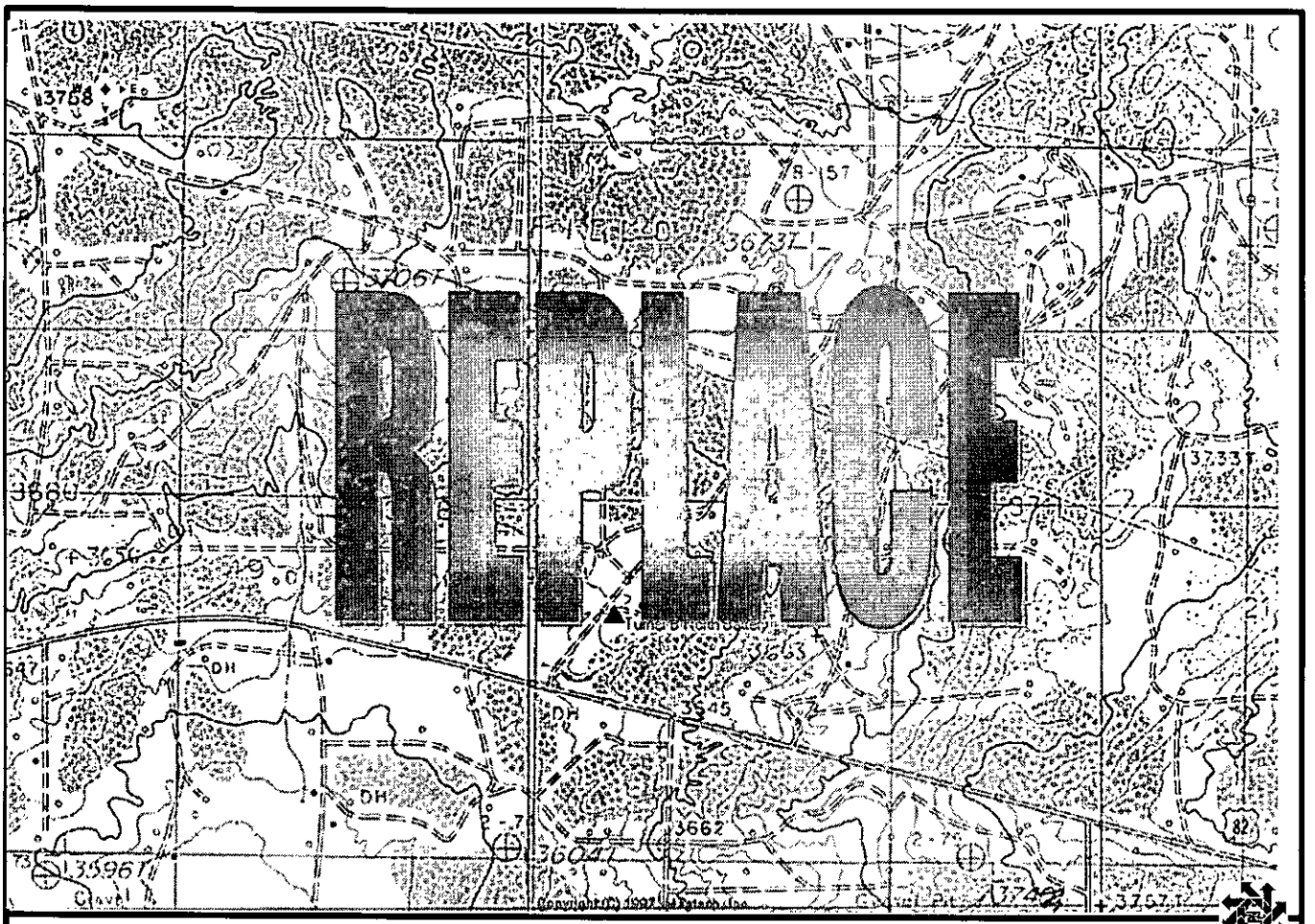
- Excavation and blending of the contaminated soil to a level below the 5000-ppm action level. Although sampling of 5 test trenches does not give a complete picture of the vertical contaminant profile, a reasonable estimate of the average TPH for the 0' – 3' zone would be 10,000-ppm (see Appendix A). Assuming that some areas would have to excavated deeper than 3-ft, 4000 to 6000-yd^3 of clean soil would have to be blended with the contaminated soil to dilute it down to 5000-ppm TPH. This would satisfy the NMOCD action level requirement, however, it would not accomplish BLM's goal of restoring the surface and providing an adequate clean root-zone for vegetative re-establishment. BLM's requirement of a 4 to 5-ft clean root-zone basically precludes the blending option.

VII. Figures & Appendices

Figure 1. Vicinity Map
Figure 2. Site Plan
Appendix A Field TPH Analytical Results
Appendix B Site Photos

Figure 1

Vicinity Map



Merit Energy

Turner B North Battery
S20, T17S, R31E
Eddy County, New Mexico

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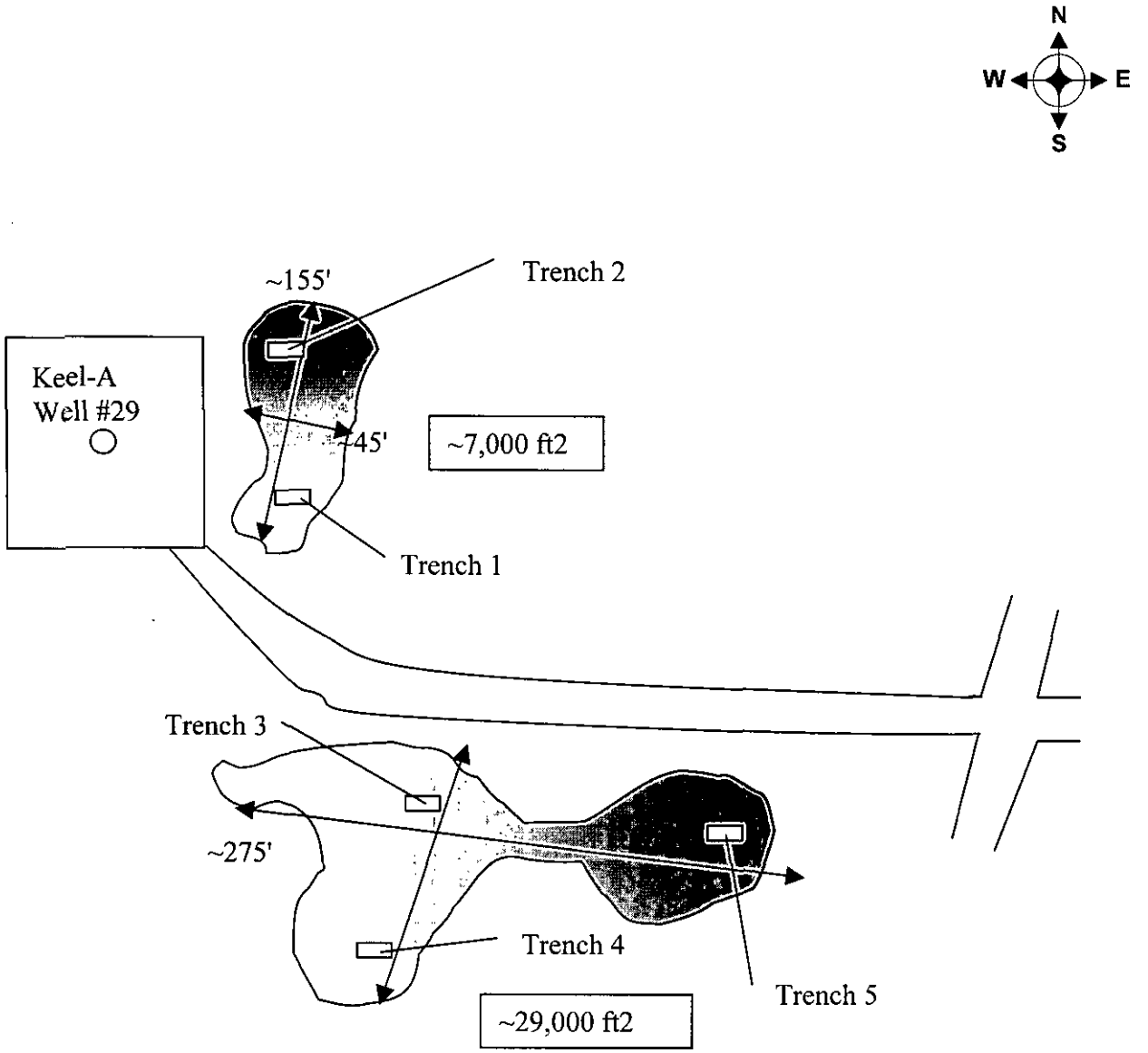
Figure 2

Site Plan



Not To Scale

Merit Energy	**Keel-A Well #29** **Sec. 7, T17S, R31E** **Eddy County, New Mexico**	**Safety & Environmental Solutions, Inc.**

Appendix A

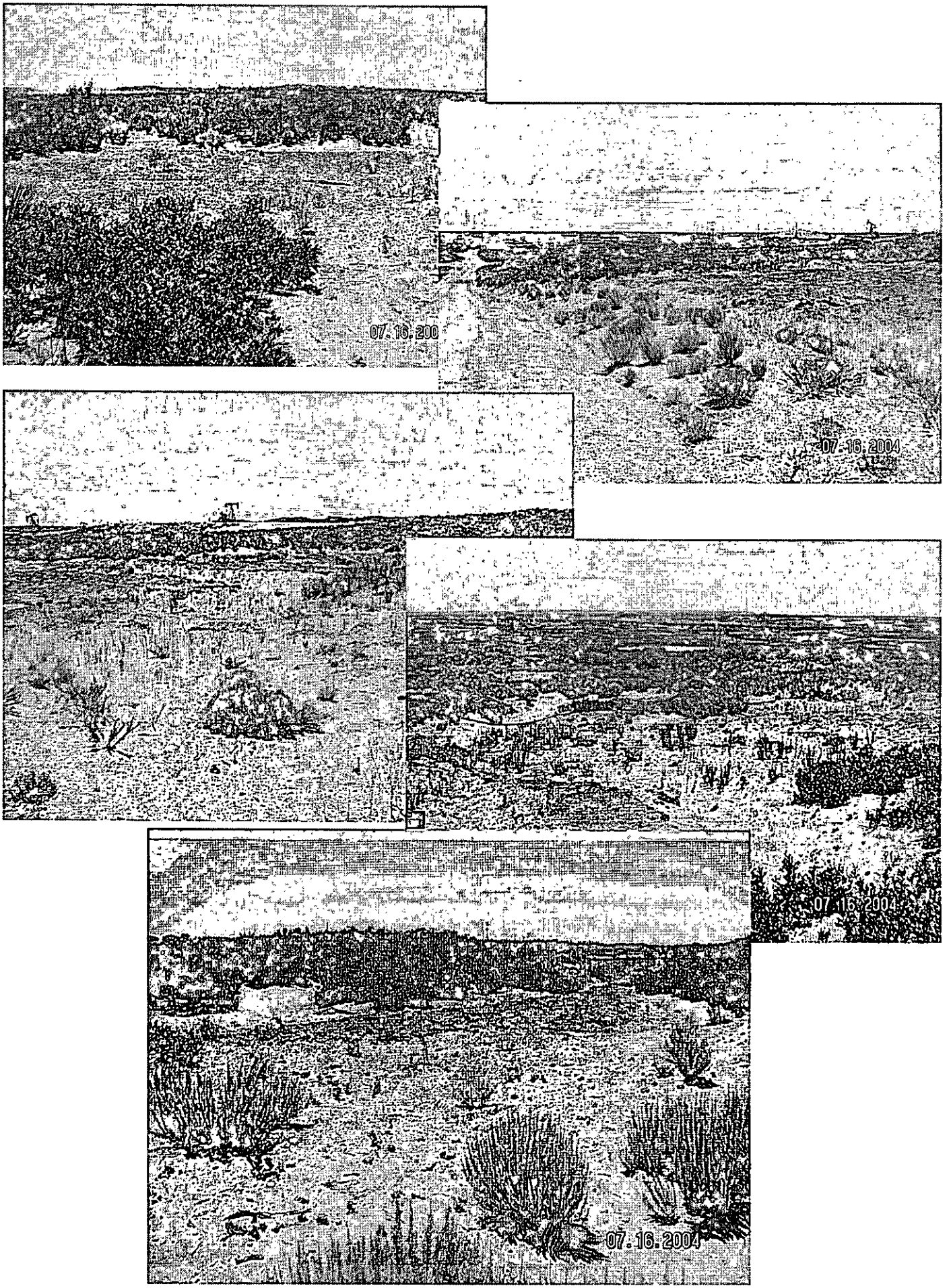
Field TPH Analyses (EPA 418.1)

MERIT KEEL-A WELL #29

	Trench 1	Trench 2	Trench 3	Trench 4	Trench 5
1-ft	***15000***	***11400***	***9500***	***9600***	***16000***
2-ft	***8000***	1360	3900	***14000***	3100
3-ft	5000	50	4000	320	***26000***
4-ft	***5700***		900	50	320

Appendix B

Site Photos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