2008 ASSESSMENT OF GROUNDWATER CONDITIONS SUMMARY REPORT
FORMER LONGVIEW REFINERY
601 PREMIER DRIVE
LONGVIEW, TEXAS

ENERCON PROJECT NO. ENMISC1215

Prepared for:

LAZARUS TEXAS REFINERY II, LLC
2929 ALLEN PARKWAY, SUITE 1400
HOUSTON, TEXAS 77019

September 8, 2008

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1.0 INTRODUCTION

1.1 BACKGROUND

ENERCON was retained by Lazarus Texas Refinery II, LLC (Lazarus) on April 30, 2008 to conduct groundwater sampling activities at the Former Longview Refinery (site) in Gregg County Texas. ENERCON understands that Lazarus has entered into an Administrative Order on Consent with the U.S. Environmental Protection Agency, Region 6 (EPA) to perform certain tasks at the site and has been provided a copy of the Consent Order.

The purpose of this project was to collect groundwater samples from onsite monitor wells and report the results such that Lazarus can transmit the results to EPA in compliance with EPA requirements and the Consent Order. This report details the groundwater sampling activities of eight (8) monitor wells (MW-1 through MW-8) located at the site. A site map indicating the monitor well locations at the site is included as Figure 1. ENERCON performed the groundwater sampling event on July 8-9, 2008.

2.0 GROUNDWATER SAMPLING PROCEDURES

During the sampling event, the monitor wells were gauged for water levels and light non-aqueous phase liquids (LNAPL), if present. Groundwater levels, LNAPL thicknesses, and total depth from each monitor well were recorded in a dedicated field book.

The non-dedicated gauging and sampling equipment were decontaminated prior to use at each monitor well location. Decontamination fluids, purge water, and disposable personal protective equipment were placed in containers for temporary on-site storage. Each container was labeled for contents, accumulation date, and container number.

During the event, groundwater samples were collected using low-flow sampling techniques in accordance with EPA guidelines (EPA/540/S-95/504). Water quality parameters (pH, specific conductance, dissolved oxygen, temperature, oxidation/reduction potential, and turbidity) were measured using an in-line flow-

through-cell. Purging continued until the parameters stabilized. The flow rate for sampling was maintained at the same rate at which purging was conducted. Samples were transferred to laboratory-supplied glass sample containers, placed on ice inside a cooler to maintain a temperature of 4° Centigrade, and transported to Accutest Laboratories in Houston, Texas along with appropriate chain-of-custody documentation. The samples were analyzed for volatile organic compounds (VOCs) by USEPA Method 8260B, semi-volatile organic compounds (SVOCs) by USEPA Method 8270C and 8270C SIM, total petroleum hydrocarbons (TPH) by TX Method 1005, and CERCLA hazardous substance list (HSL) metals by USEPA Method 6010B. Appropriate quality control and quality assurance methods were employed including the analysis of duplicate samples, field blanks, matrix spike/matrix spike duplicates, and/or trip blank samples.

2.1 GROUNDWATER ELEVATIONS

A summary of groundwater elevation data is included in Table 1. During the groundwater sampling event the monitor well tops of casing and ground levels were surveyed to feet above mean sea level (feet MSL) by a State of Texas registered professional land surveyor. Top of casing elevations for each monitor well are included in Table 1.

Groundwater elevations ranged from 359.92 feet at monitor well MW-2 (up-gradient) to 350.37 feet at monitor well MW-1 (down-gradient). The groundwater flow direction appears to be to the south-southeast at an approximate hydraulic gradient of 0.0112 ft./ft. A potentiometric surface contour map for July 2008 is illustrated on Figure 2. No measurable LNAPL was present during this sampling event.

2.2 GROUNDWATER ANALYTICAL RESULTS

A summary of groundwater analytical results is included in Table 2. For this sampling event, groundwater samples were collected from monitor wells MW-1 through MW-8.

Laboratory analytical results indicated concentrations of TPH (hydrocarbon range C_6-C_{12}) in monitor wells MW-1 (4.02 mg/L), MW-4 (14.5 mg/L), and MW-5 (4.37 mg/L)

that exceeds the TCEQ groundwater protective concentration limit (PCL) for a commercial/industrial site (2.9 mg/L). However, no EPA standard for TPH in groundwater is currently defined. Benzene was reported in monitor well MW-4 (11.8 mg/L) above the EPA maximum contaminant level (MCL) and TCEQ groundwater PCL of 0.005 mg/L. Concentrations of arsenic were reported in monitor wells MW-1 (0.0105 mg/L), MW-3 (0.0126 mg/L), MW-4 (0.0285 mg/L), and MW-5 (0.0352 mg/L) that exceed the EPA MCL and TCEQ groundwater PCL (0.01 mg/L). Concentrations of TPH, benzene, and arsenic reported during the July 2008 sampling event are illustrated on Figure 3.

A duplicate sample was collected from monitor well MW-7 in order to determine the reproducibility of the analytical results. TPH was not detected (<0.66 mg/L) in sample MW-7 as well as the duplicate sample labeled MW-0708. A field blank (FB-0807) and a matrix spike/matrix spike duplicate (MW-3MS/MSD) were collected for additional laboratory quality control purposes. The laboratory analytical reports are included in Appendix A.

A data usability assessment was performed on the analytical results to determine the validity of the data collected. The data was deemed valid. The data usability assessments for each data package are included in Appendix B. Field notes collected during the sampling event are included in Appendix C.

2.3 WATER WELL SAMPLING

During the groundwater sampling event state registered water well 3526801 was located for the purpose of sampling. However, the well casing was damaged and open to the surface. The casing was obstructed and/or plugged approximately two (2) feet below the surface. A groundwater sample was not collected from the water well as a result.

3.0 CONCLUSIONS

Based on the observations and results of the gauging and sampling events conducted in July 2008, ENERCON concludes the following:

- The groundwater flow direction appears to be to the south and southeast. Based on current onsite groundwater elevations, monitor well MW-2 (359.92 ft. MSL) is considered up-gradient, monitor well MW-1 (350.37 ft. MSL) is considered down-gradient with respect to groundwater flow;

- TPH (hydrocarbon range C_6-C_{12}) was detected at monitor wells MW-1 (4.02 mg/L), MW-4 (14.5 mg/L), and MW-5 (4.37 mg/L) above the TCEQ groundwater PCL (2.9 mg/L) for a commercial/industrial site; however, no EPA standard is currently defined for TPH in groundwater.

- Benzene was detected at monitor well MW-4 (11.8 mg/L), above the TCEQ groundwater PCL (0.005 mg/L) for a commercial/industrial site as well as the EPA MCL;

- Arsenic was detected at monitor wells MW-1 (0.0105 mg/L), MW-3 (0.0126 mg/L), MW-4 (0.0285 mg/L), and MW-5 (0.0352 mg/L) above the TCEQ groundwater PCL (0.01 mg/L) for a commercial/industrial site as well as the EPA MCL;

- No LNAPL was observed on the groundwater during this sampling event.

4.0 RECOMMENDATIONS

From the conclusions, ENERCON recommends the following:

- Plug and abandon the state registered water well 3526801 to eliminate the potential for impact to deeper groundwater zones.

TABLE 1
Summary of Groundwater Elevation Data
Former Longview Refinery
Lazarus Texas Refinery II, LLC
Longview, TX

Monitor Well	Date	Well TOC (ft MSL)	Screened Interval (ft bgs)	Depth to LNAPL (ft btoc)	LNAPL Thickness (ft)	Depth to Groundwater (ft btoc)	Groundwater Elevation (ft MSL)
MW-1	7/8/08	357.94	7-17	---	---	7.57	350.37
MW-2	7/9/08	365.52	8-18	---	---	5.60	359.92
MW-3	7/9/08	363.91	6-16	---	---	7.83	356.08
MW-4	7/8/08	362.89	5-15	---	---	5.10	357.79
MW-5	7/8/08	364.29	6-16	---	---	8.68	355.61
MW-6	7/8/08	366.62	13-23	---	---	10.61	356.01
MW-7	7/8/08	366.93	9-19	---	---	12.52	354.41
MW-8	7/8/08	363.73	5-15	---	---	7.53	356.20

NOTES:
TOC = Top of casing. Elevations have been surveyed to mean seal level (MSL).
MSL = mean seal level.
bgs = below ground surface.
btoc = below top of casing.
--- = No product indicated.
Screened intervals are estimated based on measured total depth of well.
Top of casing elevations were surveyed by Collins Surveying and Mapping on 7/9/08.

TABLE 2
Summary of Groundwater Analytical Results
Former Longview Refinery
Lazarus Texas Refinery II, LLC
Longview, TX

Parameters	MW-1 7/8/08	MW-2 7/9/08	MW-3 7/9/08	MW-4 7/8/08	MW-5 7/8/08	MW-6 7/8/08	MW-7 7/8/08	MW-8 7/8/08	Comm/Ind. $^{GW}GW_{Ing}$
TPH									
TPH (C6-C12)	4.02	1.12	2.08	14.5	4.37	1.48	<0.66	2.54	2.9*
TPH (>C12-C28)	0.464	<0.31	<0.31	0.557	0.424	<0.31	<0.31	<0.31	2.9*
TPH (>C28-C35)	<0.31	<0.31	<0.31	<0.31	0.657	<0.31	<0.31	<0.31	2.9*
TPH (C6-C35)	4.48	1.12	2.08	15.1	5.45	1.48	<0.31	2.54	—
Volatile Organics									
Acetone	<0.0026	0.0245	0.0119	<0.0026	<0.0026	<0.0026	<0.0026	<0.0026	66
Benzene	0.0024	0.00093	0.00064	11.8	0.0023	<0.00046	<0.00046	0.0013	0.005**
Bromobenzene	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	1.5
Bromochloromethane	<0.00049	<0.00049	<0.00049	<0.00049	<0.00049	<0.00049	<0.00049	<0.00049	2.9
Bromodichloromethane	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	0.033
Bromoform	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014	0.26
n-Butylbenzene	<0.00055	<0.00055	<0.00055	<0.00055	<0.00055	<0.00055	<0.00055	<0.00055	2.9
sec-Butylbenzene	0.0043	0.0016	0.0038	0.0077	0.0113	0.0113	<0.00048	0.0057	2.9
tert-Butylbenzene	0.0021	0.0027	0.0058	0.0034	0.0092	0.0092	<0.00083	0.0087	2.9
Chlorobenzene	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	0.1
Chloroethane	<0.00039	<0.00039	<0.00039	<0.00039	<0.00039	<0.00039	<0.00039	<0.00039	29
Chloroform	<0.00054	<0.00054	<0.00054	<0.00054	<0.00054	<0.00054	<0.00054	<0.00054	0.73
o-Chlorotoluene	<0.00038	<0.00038	<0.00038	<0.00038	<0.00038	<0.00038	<0.00038	<0.00038	1.5
p-Chlorotoluene	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	5.1
Carbon disulfide	<0.00051	<0.00051	<0.00051	<0.00051	<0.00051	<0.00051	<0.00051	<0.00051	7.3
Carbon tetrachloride	<0.00045	<0.00045	<0.00045	<0.00045	<0.00045	<0.00045	<0.00045	<0.00045	0.005
1,1-Dichloroethane	<0.00041	<0.00041	<0.00041	<0.00041	<0.00041	<0.00041	<0.00041	<0.00041	15
1,1-Dichloroethylene	<0.00048	<0.00048	<0.00048	<0.00048	<0.00048	<0.00048	<0.00048	<0.00048	0.007
1,1-Dichloropropene	<0.00035	<0.00035	<0.00035	<0.00035	<0.00035	<0.00035	<0.00035	<0.00035	0.02
1,2-Dibromo-3-chloropropane	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	0.0002
1,2-Dibromoethane	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	0.00005
1,2-Dichloroethane	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.005
1,2-Dichloropropane	<0.00053	<0.00053	<0.00053	<0.00053	<0.00053	<0.00053	<0.00053	<0.00053	0.005
1,3-Dichloropropane	<0.00041	<0.00041	<0.00041	<0.00041	<0.00041	<0.00041	<0.00041	<0.00041	0.02
2,2-Dichloropropane	<0.00058	<0.00058	<0.00058	<0.00058	<0.00058	<0.00058	<0.00058	<0.00058	0.03
Dibromochloromethane	<0.00046	<0.00046	<0.00046	<0.00046	<0.00046	<0.00046	<0.00046	<0.00046	0.024
Dichlorodifluoromethane	<0.00053	<0.00053	<0.00053	<0.00053	<0.00053	<0.00053	<0.00053	<0.00053	15
cis-1,2-Dichloroethylene	<0.00043	<0.00043	<0.00043	<0.00043	<0.00043	<0.00043	<0.00043	<0.00043	0.07
cis-1,3-Dichloropropene	<0.00053	<0.00053	<0.00053	<0.00053	<0.00053	<0.00053	<0.00053	<0.00053	0.0038
m-Dichlorobenzene	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	2.2
o-Dichlorobenzene	<0.00049	<0.00049	<0.00049	<0.00049	<0.00049	<0.00049	<0.00049	<0.00049	0.6
p-Dichlorobenzene	<0.00046	<0.00046	<0.00046	<0.00046	<0.00046	<0.00046	<0.00046	<0.00046	0.075
trans-1,2-Dichloroethylene	<0.00046	<0.00046	<0.00046	<0.00046	<0.00046	<0.00046	<0.00046	<0.00046	0.1
trans-1,3-Dichloropropene	<0.00036	<0.00036	<0.00036	<0.00036	<0.00036	<0.00036	<0.00036	<0.00036	0.02
Ethylbenzene	0.0123	0.0015	0.00066	0.184	0.0055	<0.00045	<0.00045	0.0012	0.7
2-Hexanone	<0.0024	<0.0024	<0.0024	<0.0024	<0.0024	<0.0024	<0.0024	<0.0024	4.4
Hexachlorobutadiene	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	0.026
Isopropylbenzene	0.011	0.0032	0.003	0.0718	0.0679	0.0008	<0.00041	0.005	7.3
p-Isopropyltoluene	0.00095	<0.0004	<0.0004	0.0037	<0.0004	<0.0004	<0.0004	0.00041	7.3
4-Methyl-2-pentanone	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	5.8
Methyl bromide	<0.00054	<0.00054	<0.00054	<0.00054	<0.00054	<0.00054	<0.00054	<0.00054	0.1
Methyl chloride	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	0.16
Methylene bromide	<0.00041	<0.00041	<0.00041	<0.00041	<0.00041	<0.00041	<0.00041	<0.00041	0.27
Methylene chloride	<0.00041	<0.00041	<0.00041	<0.00041	<0.00041	<0.00041	<0.00041	<0.00041	0.005
Methyl ethyl ketone	<0.0025	0.0033	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	44
Naphthalene	0.0473	<0.00039	<0.00039	0.192	0.0181	0.003	<0.00039	0.0011	1.5
n-Propylbenzene	0.0104	0.0015	0.0017	0.108	0.0917	<0.00051	<0.00051	0.0029	2.9
Styrene	<0.00035	<0.00035	<0.00035	<0.00035	<0.00035	<0.00035	<0.00035	<0.00035	0.1
1,1,1,2-Tetrachloroethane	<0.00037	<0.00037	<0.00037	<0.00037	<0.00037	<0.00037	<0.00037	<0.00037	0.079
1,1,1-Trichloroethane	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	0.2
1,1,2,2-Tetrachloroethane	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	0.01
1,1,2-Trichloroethane	<0.00044	<0.00044	<0.00044	<0.00044	<0.00044	<0.00044	<0.00044	<0.00044	0.005
1,2,3-Trichlorobenzene	<0.00043	<0.00043	<0.00043	<0.00043	<0.00043	<0.00043	<0.00043	<0.00043	0.22
1,2,3-Trichloropropane	<0.00069	<0.00069	<0.00069	<0.00069	<0.00069	<0.00069	<0.00069	<0.00069	0.00029
1,2,4-Trichlorobenzene	<0.00053	<0.00053	<0.00053	<0.00053	<0.00053	<0.00053	<0.00053	<0.00053	0.07
1,2,4-Trimethylbenzene	0.00094	0.00057	<0.00046	0.0541	<0.00046	<0.00046	<0.00046	<0.00046	3.7
1,3,5-Trimethylbenzene	<0.00044	<0.00044	<0.00044	0.0209	<0.00044	<0.00044	<0.00044	<0.00044	3.7
Tetrachloroethylene	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.005
Toluene	<0.00048	<0.00048	<0.00048	0.336	0.00095	<0.00048	<0.00048	<0.00048	1
Trichloroethylene	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	0.005
Trichlorofluoromethane	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	22
Vinyl chloride	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	0.002
Xylene (total)	<0.0014	<0.0014	<0.0014	0.252	<0.0014	<0.0014	<0.0014	<0.0014	10
m,p-Xylene	<0.00094	<0.00094	<0.00094	0.166	<0.00094	<0.00094	<0.00094	<0.00094	10
o-Xylene	<0.00042	<0.00042	<0.00042	0.135	0.0008	<0.00042	<0.00042	<0.00042	10

TABLE 2
Summary of Groundwater Analytical Results
Former Longview Refinery
Lazarus Texas Refinery II, LLC
Longview, TX

Parameters	MW-1 7/8/08	MW-2 7/9/08	MW-3 7/9/08	MW-4 7/8/08	MW-5 7/8/08	MW-6 7/8/08	MW-7 7/8/08	MW-8 7/8/08	Comm/Ind. $^{GW}GW_{ing}$
Semivolatile Organics									
Benzoic Acid	<0.00058	<0.00058	<0.00058	<0.00058	<0.00058	<0.00058	<0.00058	<0.00058	290
2-Chlorophenol	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014	0.37
4-Chloro-3-methyl phenol	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	0.37
2,4-Dichlorophenol	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	0.22
2,4-Dimethylphenol	<0.0026	<0.0026	<0.0026	<0.0026	<0.0026	<0.0026	<0.0026	<0.0026	1.5
2,4-Dinitrophenol	<0.0024	<0.0024	<0.0024	<0.0024	<0.0024	<0.0024	<0.0024	<0.0024	0.15
4,6-Dinitro-o-cresol	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	0.0073
2-Methylphenol	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	3.7
3&4-Methylphenol	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	0.37
2-Nitrophenol	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	0.15
4-Nitrophenol	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	0.15
Pentachlorophenol	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.001
Phenol	<0.00052	<0.00052	<0.00052	<0.00052	<0.00052	<0.00052	<0.00052	<0.00052	220
2,4,5-Trichlorophenol	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	7.3
2,4,6-Trichlorophenol	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	0.073
Acenaphthene	0.00083	<0.000066	<0.000066	0.00056	0.0004	<0.000066	<0.000066	0.00091	4.4
Acenaphthylene	<0.000054	<0.000054	<0.000054	0.00034	<0.000054	<0.000054	<0.000054	<0.000054	4.4
Anthracene	0.00027	<0.000037	<0.000037	0.00013	<0.000037	<0.000037	<0.000037	<0.000037	220
Benzo(a)anthracene	<0.000055	<0.000055	<0.000055	<0.000055	<0.000055	<0.000055	<0.000055	<0.000055	0.0028
Benzo(a)pyrene	<0.000099	<0.000099	<0.000099	<0.000099	<0.000099	<0.000099	<0.000099	<0.000099	0.0002
Benzo(b)fluoranthene	<0.000056	<0.000056	<0.000056	<0.000056	<0.000056	<0.000056	<0.000056	<0.000056	0.0028
Benzo(g,h,i)perylene	<0.000059	<0.000059	<0.000059	<0.000059	<0.000059	<0.000059	<0.000059	<0.000059	2.2
Benzo(k)fluoranthene	<0.000046	<0.000046	<0.000046	<0.000046	<0.000046	<0.000046	<0.000046	<0.000046	0.028
4-Bromophenyl phenyl ether	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	0.00014
Butyl benzyl phthalate	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	150
Benzyl Alcohol	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	370
2-Chloronaphthalene	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	5.8
4-Chloroaniline	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	0.29
Carbazole	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	0.1
Chrysene	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	0.28
bis(2-Chloroethoxy)methane	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	0.0019
bis(2-Chloroethyl)ether	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	0.0019
bis(2-Chloroisopropyl)ether	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	0.029
4-Chlorophenyl phenyl ether	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	0.00014
1,2-Dichlorobenzene	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	0.6
1,3-Dichlorobenzene	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	2.2
1,4-Dichlorobenzene	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	0.075
2,4-Dinitrotoluene	<0.0024	<0.0024	<0.0024	<0.0024	<0.0024	<0.0024	<0.0024	<0.0024	0.003
2,6-Dinitrotoluene	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	0.003
3,3'-Dichlorobenzidine	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	0.0045
Dibenzo(a,h)anthracene	<0.000032	<0.000032	<0.000032	<0.000032	<0.000032	<0.000032	<0.000032	<0.000032	0.00028
Dibenzofuran	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	0.29
Di-n-butyl phthalate	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	7.3
Di-n-octyl phthalate	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	1.5
Diethyl phthalate	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	58
Dimethyl phthalate	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	58
bis(2-Ethylhexyl)phthalate	<0.0015	<0.0015	<0.0015	0.0024	<0.0015	<0.0015	<0.0015	<0.0015	0.006
Fluoranthene	<0.000071	<0.000071	<0.000071	<0.000071	<0.000071	<0.000071	<0.000071	<0.000071	2.9
Fluorene	0.003	0.003	0.00033	0.0011	0.00079	0.00015	<0.000062	0.00094	2.9
Hexachlorobenzene	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	0.001
Hexachlorobutadiene	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	0.026
Hexachlorocyclopentadiene	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014	0.05
Hexachloroethane	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	0.073
Indeno(1,2,3-cd)pyrene	<0.00011	<0.00011	<0.00011	<0.00011	<0.00011	<0.00011	<0.00011	<0.00011	0.0028
Isophorone	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	2.2
2-Methylnaphthalene	0.0046	<0.000065	0.0014	0.0195	0.0089	<0.000065	<0.000065	<0.000065	0.29
2-Nitroaniline	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	0.022
3-Nitroaniline	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	0.022
4-Nitroaniline	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.054
Naphthalene	0.0126	0.00022	0.0043	0.056	0.0058	<0.00011	<0.00011	0.00073	1.5
Nitrobenzene	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014	0.037
N-Nitroso-di-n-propylamine	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	0.00029
N-Nitrosodiphenylamine	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	0.42
Phenanthrene	0.0032	<0.000084	<0.000084	0.00077	0.0003	<0.000084	<0.000084	0.00029	2.2
Pyrene	0.00063	<0.000081	<0.000081	0.00041	0.00017	<0.000081	<0.000081	0.00021	2.2
1,2,4-Trichlorobenzene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.07

TABLE 2
Summary of Groundwater Analytical Results
Former Longview Refinery
Lazarus Texas Refinery II, LLC
Longview, TX

Parameters	MW-1 7/8/08	MW-2 7/9/08	MW-3 7/9/08	MW-4 7/8/08	MW-5 7/8/08	MW-6 7/8/08	MW-7 7/8/08	MW-8 7/8/08	Comm/Ind. $^{GW}GW_{Ing}$
HSL Metals									
Aluminum	0.313	0.363	0.38	2.28	<0.086	0.155	0.234	0.189	73
Antimony	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	0.006
Arsenic	**0.0105**	0.0049	**0.0126**	**0.0285**	**0.0352**	0.003	<0.0027	0.0072	0.01**
Barium	0.111	0.0266	0.124	0.506	0.143	0.0506	0.0367	0.109	2
Beryllium	0.0016	<0.00026	<0.00026	0.0022	0.0014	0.0015	0.0015	<0.00026	0.004
Cadmium	<0.0018	<0.0018	<0.0018	0.002	<0.0018	<0.0018	<0.0018	<0.0018	0.005
Calcium	0.829	78.1	3.56	15.7	6.98	24.8	35.8	16.2	---
Chromium	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	0.1
Cobalt	<0.0096	<0.0096	<0.0096	0.0128	<0.0096	<0.0096	<0.0096	<0.0096	4.4
Copper	0.0108	<0.0059	0.019	0.0084	0.0157	<0.0059	<0.0059	<0.0059	1.3
Lead	<0.0028	<0.0028	<0.0028	<0.0028	<0.0028	<0.0028	<0.0028	<0.0028	0.015
Magnesium	2.83	18	6.52	23	12.8	2.57	5.56	10.6	---
Manganese	0.0119	5.95	0.178	0.837	0.238	0.0649	0.0574	0.66	10
Nickel	0.0027	0.0246	<0.0026	0.0117	0.0043	0.0634	0.0027	<0.0026	1.5
Potassium	0.183	1.48	0.793	1.69	0.698	2	1.74	0.549	---
Selenium	0.0056	<0.0023	0.0041	0.0115	0.0133	0.0024	<0.0023	2.4	0.05
Silver	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	0.0012	<0.0011	0.37
Sodium	63	97	30.3	599	103	23.1	21.9	149	---
Thallium	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	0.002
Vanadium	<0.00094	<0.00094	<0.00094	<0.00094	<0.00094	<0.00094	<0.00094	<0.00094	0.51
Zinc	0.0127	<0.0075	0.0101	0.0708	<0.0075	<0.0075	<0.0075	<0.0075	22

Notes:

Data assessed to April 23, 2008 Tier 1 Commercial/Industrial Groundwater PCLs.
--- = No current PCL.
Exceedances of the TRRP groundwater PCL are indicated in **bold red** font.
* There is currently no standard defined by the EPA for TPH in groundwater.
** TRRP PCL is equivalent to the EPA maximum contaminant level (MCL).
All results are reported in mg/L or PPM.
TPH analyzed by Method TX 1005.
VOCs analyzed by Method 8260B.
SVOCs analyzed by Method 8270C and 8270C SIM.
HSL Metals analyzed by Method 6010B.

LEGEND

MW-1 MONITORING WELL

WATER WELL

PROPERTY BOUNDARY

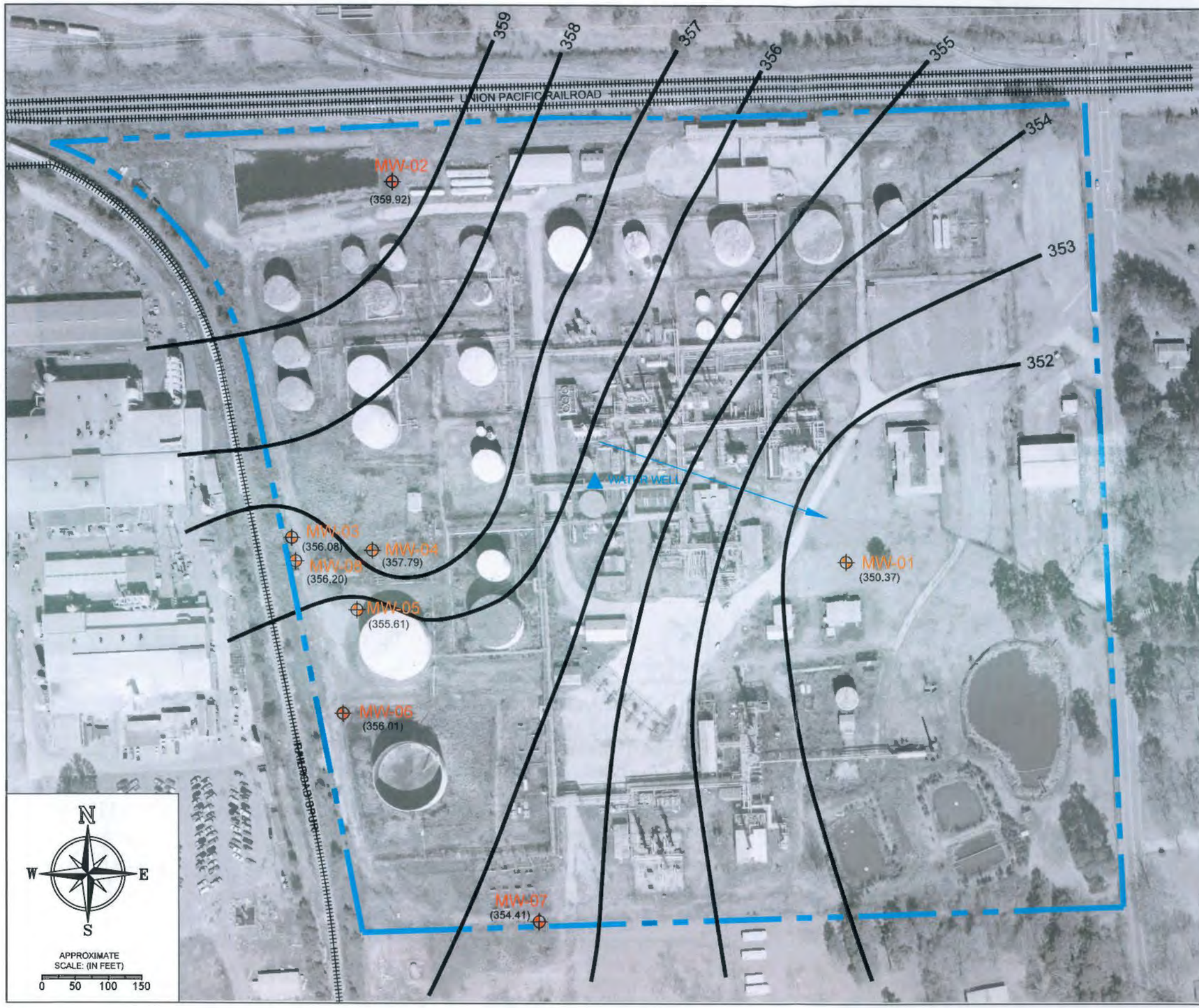
DRAWING TITLE: FIGURE 1 SITE MAP

LOCATION: FORMER LONGVIEW REFINERY
601 PREMIER DRIVE
LONGVIEW, TEXAS

CLIENT: LAZARUS TEXAS REFINERY II, LLC

ENERCON SERVICES, INC.
1700 WEST LOOP SOUTH, STE 825
HOUSTON, TEXAS 77027
WWW.ENERCON.COM (713) 941-0401

APPROVED BY:	DATE:	DRAWN BY:
B. Neff	08/27/08	S. Conner
PROJECT NO: ENMISC1215	SHEET NO: Sheet 1 of 1	DRAWING FILE NAME: ENMISC1215-01



LEGEND

MW-1 (350.37) — MONITORING WELL WITH GROUNDWATER ELEVATION

WATER WELL

PROPERTY BOUNDARY

GROUNDWATER CONTOUR (DASHED WHERE INFERRED)

GROUNDWATER FLOW DIRECTION

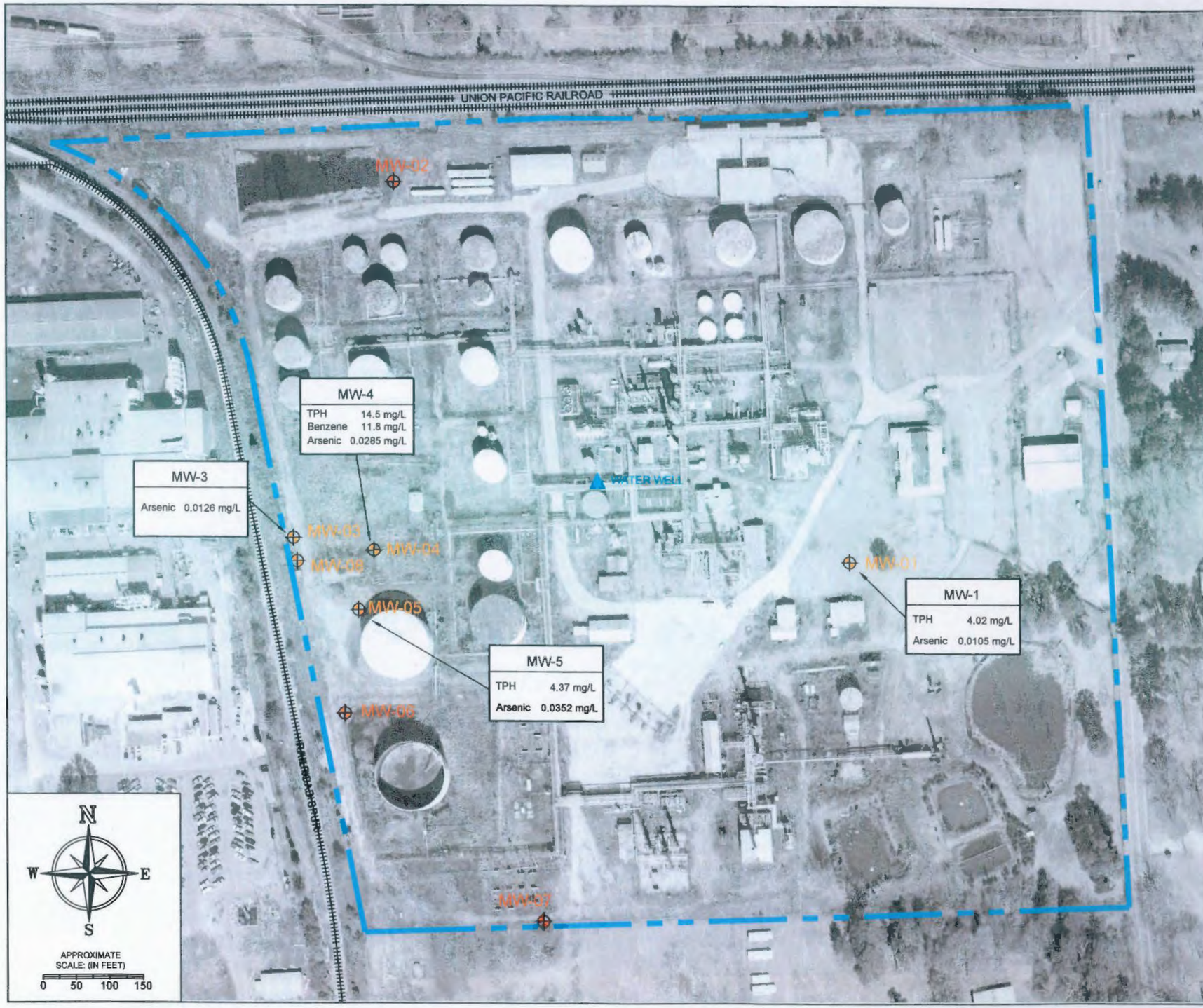
DRAWING TITLE: FIGURE 2 - GROUNDWATER GRADIENT MAP (JULY 2008)

LOCATION: FORMER LONGVIEW REFINERY
601 PREMIER DRIVE
LONGVIEW, TEXAS

CLIENT: LAZARUS TEXAS REFINERY II, LLC

ENERCON SERVICES, INC.
1700 WEST LOOP SOUTH, STE 825
HOUSTON, TEXAS 77027
WWW.ENERCON.COM (713) 941-0401

APPROVED BY:	DATE:	DRAWN BY:
B. Neff	08/27/08	S. Conner
PROJECT NO: ENMISC1215	SHEET NO: Sheet 1 of 1	DRAWING FILE NAME: ENMISC1215-02



LEGEND

MW-1 MONITORING WELL

WATER WELL

PROPERTY BOUNDARY

DRAWING TITLE:
FIGURE 3 - GROUNDWATER CONCENTRATION MAP

LOCATION: FORMER LONGVIEW REFINERY
601 PREMIER DRIVE
LONGVIEW, TEXAS

CLIENT:
LAZARUS TEXAS REFINERY II, LLC

ENERCON SERVICES, INC.
1700 WEST LOOP SOUTH, STE 825
HOUSTON, TEXAS 77027
WWW.ENERCON.COM (713) 941-0401

APPROVED BY:	DATE:	DRAWN BY:
B. Neff	08/27/08	S. Conner
PROJECT NO: ENMISC1215	SHEET NO: Sheet 1 of 1	DRAWING FILE NAME: ENMISC1215-03