3R - 276

REPORTS

DATE:

2001

ANNUAL MONITORING REPORT

MANANA GAS, INC.
NANCY HARTMAN NO. 1E

(A) SEC. 22 - T29N - R11W, NMPM
SAN JUAN COUNTY, NEW MEXICO

RECEIVED
OCT 16 2001
ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

PREPARED FOR:
NEW MEXICO OIL CONSERVATION DIVISION
1220 ST. FRANCIS DRIVE
SANTA FE, NEW MEXICO 87504

PREPARED BY:
BLAGG ENGINEERING, INC.
CONSULTING ENGINEERS
P.O. BOX 87
BLOOMFIELD, NM 87413
(505)632-1199

OCTOBER 10, 2001

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Monitor Well Development/Sampling Data with associated Laboratory Analytical Test Results

ANNUAL MONITORING REPORT
MANANA GAS NANCY HARTMAN NO. 1E

Introduction

Groundwater contamination resulting from a tank leak at the Manana Gas Nancy Hartman No. 1E was discovered in October, 2000. The well, drilled within the City of Bloomfield village limits, is located in (A) Sec. 22 - T29N - R11W (Figure 1). Blagg Engineering, Inc. (BEI) was contracted by Manana Gas to conduct investigations and prepare a reclamation plan. This plan, dated December 20, 2000 was submitted to the New Mexico Oil Conservation Division (NMOCD). NMOCD approved the plan and included additional monitoring requirements with a letter dated January 25, 2001.

BEI installed groundwater monitoring wells in and around the site prior to development of the site reclamation plan. These wells determined that groundwater was found approximately 13 feet below ground surface. Water sample analytical data review concluded that the wells adequately delineated the extent of groundwater contamination. This contamination migrated off site from the source area (Figure 2) and was found to extend below the footprint of a proposed Bloomfield school building. The reclamation plan recognized that remediation below the proposed building would limit potential cleanup strategies and groundwater air sparging was identified as the best available technology. The proposed air sparge system was installed in January and February, 2001 and placed into operation on March 9, 2001. Except for periodic maintenance and operational shut-downs, the system has remained in continuous operation since that time.

Due to construction of the school building, several monitor wells required abandonment, including No's 1, 4M and 5M. However, for safety considerations (ie, proximity to the Nancy Hartman No. 1 and 1E gas wells) the school district decided to move the building and the revised site no longer sits atop groundwater contamination or over the abandoned monitor well locations. Therefore, BEI re-installed the abandoned wells and labeled them as No's 1A, 4R and 5A. Furthermore, the building relocation will allow downgradient expansion of the air sparge system.

Summary Water Quality Results

Site monitor wells have been sampled and tested pursuant to the approved Reclamation Plan. The primary contaminates of concern are hydrocarbon constituents benzene, toluene, ethylbenzene and total xylenes (BTEX). These compounds and other key analytical parameters are included in Table 1 on the following page. The test results indicate that substantial groundwater remediation has been

MANANA GAS , INC. GROUNDWATER MONITOR WELL BTEX LAB RESULTS

SUBMITTED BY BLAGG ENGINEERING, INC.

NANCY HARTMAN # 1E
UNIT A, SEC. 22, T29N, R11W

REVISED DATE: SEPTEMBER 28, 2001

FILENAME: (NH-3QR01.WK4) NJV

SAMPLE DATE	MONITOR WELL #	D.T.W. (ft)	T.D. (ft)	TDS mg/L	COND. (umhos/cm)	pH	PRODUCT (ft)	BTEX EPA METHOD 8260 or 8021 (ppb) Benzene	Toluene	Ethyl Benzene	Total Xylene
06-Nov-00	MW #1	14.79	22.36		1,778	6.83		5,000	10,000	830	12,000
18-Sep-01	MW #1A	14.57	25.00		900	7.17		14,000	23,000	1,000	14,000
11-Dec-00	MW #1M	16.00	24.00		1,200	7.37		ND	ND	ND	ND
06-Nov-00	MW #2	14.84	22.71		1,200	7.21		48	ND	ND	ND
19-Feb-01		16.75			1,200	7.21		220	ND	ND	0.56
21-May-01		17.10			600	8.10		ND	ND	ND	ND
21-Aug-01		15.26			500	8.44		ND	ND	ND	ND
11-Dec-00	MW #2M	16.49	23.50		1,300	7.34		11,000	34,000	910	14,000
19-Feb-01		17.91			1,300	7.24		3,900	30,000	1,200	13,000
21-May-01		18.21			1,000	8.04		ND	96	16	280
21-Aug-01		16.13			900	8.10		ND	64	11	330
19-Feb-01	MW #3	17.09	23.14		1,400	7.66		ND	ND	ND	ND
21-May-01		18.21			1,000	7.48		ND	ND	ND	ND
06-Dec-00	MW #3M	14.24	23.50		901	7.10		ND	ND	ND	ND
19-Feb-01		16.13			1,000	7.41		ND	ND	ND	ND
21-May-01		16.39			700	7.87		ND	ND	ND	ND
06-Nov-00	MW #4M	13.67	25.00		1,512	6.92		680	ND	ND	ND
18-Sep-01	MW #4R	11.30	25.00		900	7.55		ND	ND	ND	ND
06-Nov-00	MW #5M	15.34	25.00		1,010	7.02		1,800	4,500	330	4,400
18-Sep-01	MW #5A	14.25	25.00		1,000	7.38		640	6,500	310	3,900
15-Nov-00	MW #6M	14.27	24.00		1,300	7.43		ND	ND	ND	ND
19-Feb-01		15.70			1,100	7.41		ND	ND	ND	ND
21-May-01		15.79			1,100	7.19		2.0	ND	ND	ND
21-Aug-01		14.37			1,300	7.27		1.5	ND	ND	ND
15-Nov-00	MW #7M	14.14	19.00		1,200	7.23		ND	ND	ND	ND
19-Feb-01		15.62			1,200	7.30		ND	ND	ND	ND
21-May-01		15.74			1,200	7.18		ND	ND	ND	ND
15-Nov-00	MW #8M	14.67	25.00		900	7.68		ND	ND	ND	ND
					NMWQCC GROUNDWATER STANDARDS			**10**	**750**	**750**	**620**

NOTES :
1) MW #'s 1 , 4M , & 5M plugged and abandoned on November 16 , 2000 .
2) MW # 8M top of casing damaged by construction crew .
3) MW #'s highlighted are or possibly are effected by the original air sparge system (AS-1 thru AS-9) .
4) MW # 1M - background monitor well .
5) MW # 2M - monitor well within 1 of 2 probable source areas.
6) MW # 6M - furthest down gradient monitor well from source areas.
7) MW #'s 7M & 8M - down gradient , but lateral on west perimeter of plume .
8) Air sparge system start up iniitiated on March 9 , 2001 .

TABLE 2

TRACE METALS RESULTS OF LABORATORY GROUNDWATER ANALYSIS

MW #	Sample Date	Mercury	Alum-inum	Arsenic	Barium	Boron	Cad-mium	Chro-mium	Cobalt	Copper
1	11/06/00	ND	3.7	0.086	2.3	ND	ND	0.003	ND	0.03
4M	11/06/00	ND	4.0	0.001	0.23	ND	ND	0.001	ND	ND
1M	12/11/00	ND	183	0.04	1.37	.04	0.002	0.111	0.057	0.157
2	2/19/01	-	-	-	0.090	-	-	-	-	-
NMWQCC STANDARDS		*.002*	*5.0*	*0.1*	*1.0*	*0.75*	*0.01*	*0.05*	*0.05*	*1.0*

MW #	Sample Date	Iron	Lead	Manganese	Molybdenum	Nickel	Selenium	Silver	Zinc
1	11/06/00	*27.4*	0.022	*9.6*	ND	0.02	0.004	ND	0.03
4M	11/06/00	0.85	0.008	*0.58*	ND	0.01	0.002	ND	0.02
1M	12/11/00	170	0.092	*3.89*	0.010	0.093	ND	ND	0.393
2	2/19/01	0.22	-	0.186	-	-	-	-	-
NMWQCC STANDARDS		*1.0*	*0.05*	*0.2*	*1.0*	*0.2*	*0.05*	*0.05*	*10.0*

NOTES :
1) MW = monitor well.
2) NMWQCC - New Mexico Water Quality Control Commission.
3) Unit of data is parts per million or mg/L.
4) ND = not detected at or above reporting limit.

TABLE 3

PAH RESULTS OF LABORATORY GROUNDWATER ANALYSIS

MW #	Sample Date	Total Naphthalene	Benzo(a)pyrene
1	11/06/00	146	ND
2	2/19/01	ND	ND
2M	2/19/01	76.6	ND
NMWQCC STANDARDS		*30*	*0.7*

NOTES :
1) PAH = polynuclear aromatic hydrocarbons.
2) MW = monitor well.
3) NMWQCC - New Mexico Water Quality Control Commission
4) Unit of data is parts per billion or µg/L.
5) ND = not detected at or above reporting limit.

achieved in the source area of contamination as indicated in monitor well MW-2M. This well is placed at the center of the original spill site. Groundwater contamination in December, 2000 and February, 2001 prior to initiation of air sparging indicated elevated levels of BTEX. Analytical results from samples collected February 19, 2001 indicated benzene at 3,900 parts per billion (ppb), toluene at 30,000 ppb, ethyl benzene at 1,200 ppb and total xylenes at 13,000 ppb. Air sparging was initiated on March 9, 2001 and analytical test results in well MW-2M from samples collected on May 21, 2001 indicated benzene at non-detect, toluene at 96 ppb, ethyl benzene at 16 ppb and total xylenes at 280 ppb. These May test results are below regulatory standards for all BTEX constituents in this well.

The present air sparge system was installed primarily within and immediately down-gradient from the original source area. Further down-gradient monitor wells have had variable results following initiation of the air sparge system. Down-gradient monitor well MW-1A has experienced an increase in BTEX, monitor well MW-4R has gone from 680 ppb benzene to non-detect, and well MW-5A has remained relatively constant with BTEX levels above standards. More distant down-gradient wells MW-6M and MW-7M have remained below regulatory standards and indicate no expansive migration of contaminates has occurred.

Summary Groundwater Gradient Measurements

Groundwater elevations in site wells were measured during each sampling event. Groundwater gradient extrapolations from measurements made in February, May, August and September 2001 are included in site maps Figures 3a, 3b, 3c and 3d respectively. The groundwater flow direction from these measurements has been primarily constant and towards the south. Seasonal variations indicate an approximate 1 foot increase in groundwater elevation from February, 2001 to August, 2001.

Recommendations for Further Action

Continued operation of the air sparge system and quarterly groundwater monitoring is recommended for the site. The Reclamation Plan for the site did not include expansion of the air sparge system to down-gradient areas because the proposed school building preclude such activity. However, since the building has been placed in a new location away from the Manana well site it is now possible to consider expansion of the sparge system.

It is too early in the reclamation program to determine long term cleanup effects on down-gradient contamination resulting from operation of the presently configured air sparge system. However, BEI

is confident that placement of additional sparge points in down-gradient areas will accelerate reclamation of contamination. A proposed sparge system expansion is depicted on Figure 4. This expansion includes 7 additional sparge points down-gradient from the existing system.

One additional groundwater monitor well is recommended to fully ascertain down-gradient and side-gradient limits of contamination. This well is depicted at MW-9M on Figure 4. This well location was selected due to the current placement of the school building immediately southeast of the suggested MW-9M well site. This well will confirm the presence/absence of contamination migrating in the area of the new building site.

Limitations and Closure

The scope of BEI's services has been limited to monitor well and reclamation system installation, site sampling and reporting. Work has been performed in accordance with generally accepted practices in environmental engineering and hydrogeology.

This report has been prepared for the exclusive use of Manana Gas, Inc. as it pertains to the Nancy Hartman No. 1E located in the NE/4 of the NE/4 of Section 22, Township 29N, Range 11W, NMPM, San Juan County, New Mexico.

I certify that I am personally familiar with the investigative work at the site, site conditions and information as reported in this document.

Respectively Submitted:
Blagg Engineering, Inc.

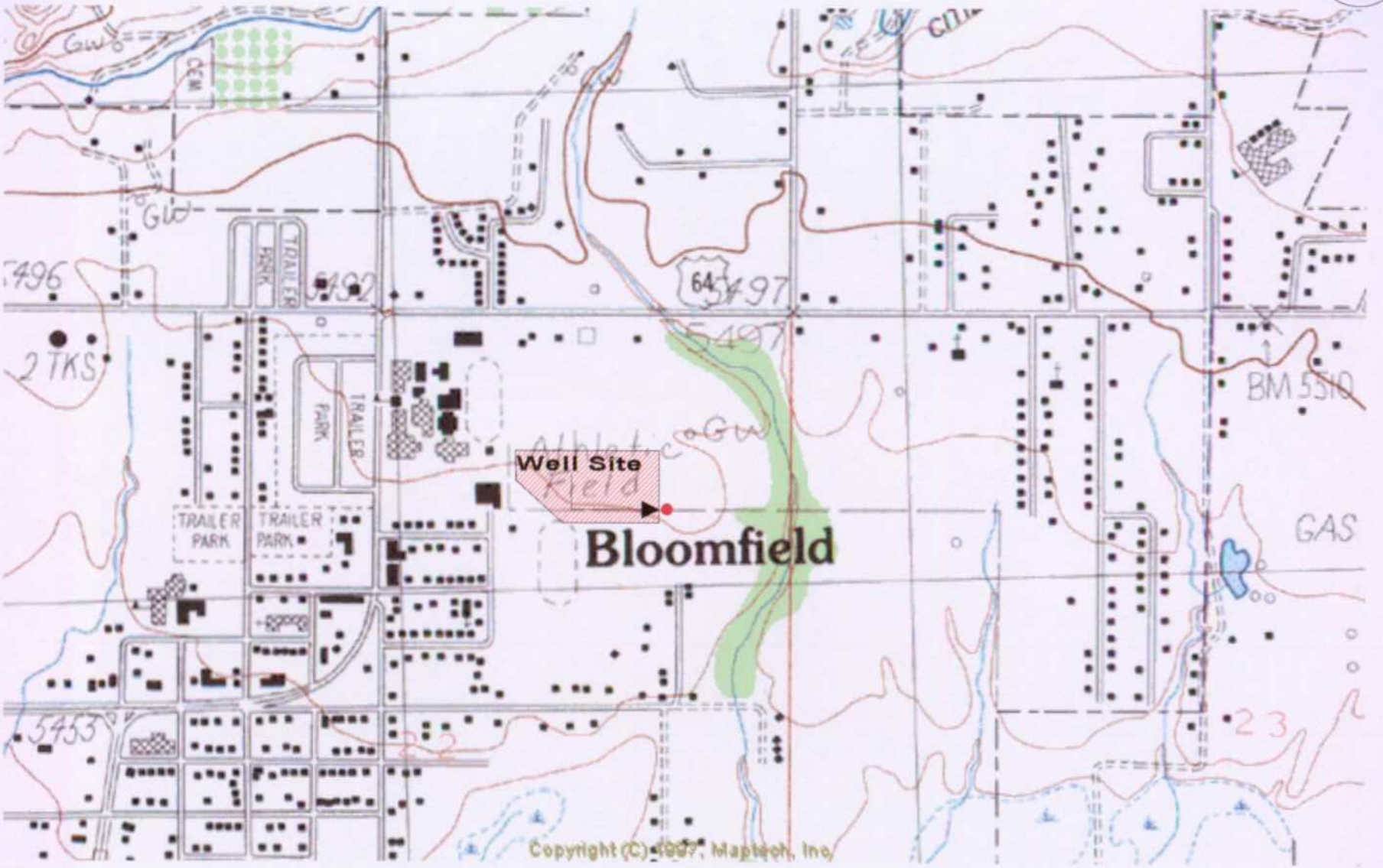
Jeffrey C. Blagg

Jeffrey C. Blagg, NMPE 11607
President

FIGURES

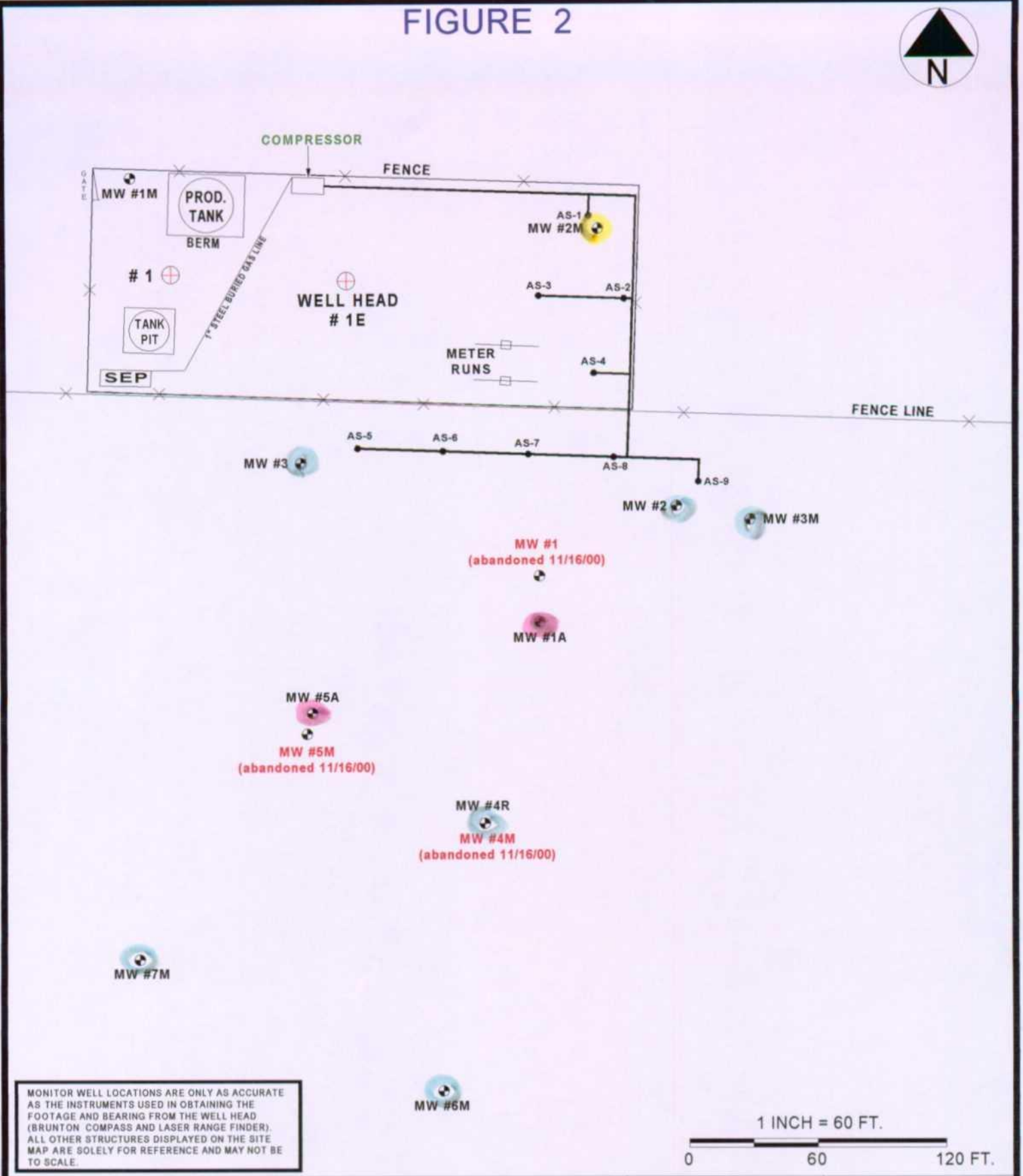
TOPOGRAPHIC MAP
BLOOMFIELD, NEW MEXICO
PROVISIONAL EDITION 1985

FIGURE 1



MANANA GAS, INC. NANCY HARTMAN #1 & #1E NE/4 NE/4 SEC. 22, T29N, R11W SAN JUAN COUNTY, NEW MEXICO	BLAGG ENGINEERING, INC. CONSULTING PETROLEUM / RECLAMATION SERVICES P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199	GW INVESTIGATION EDITED BY: NJV FILENAME: MANA-TP.SKF	REFERENCE MAP 10/01

FIGURE 2



MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (BRUNTON COMPASS AND LASER RANGE FINDER). ALL OTHER STRUCTURES DISPLAYED ON THE SITE MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

MANANA GAS, INC.
NANCY HARTMAN # 1 & # 1E
NE/4 NE/4 SEC. 22, T29N, R11W
SAN JUAN COUNTY, NEW MEXICO

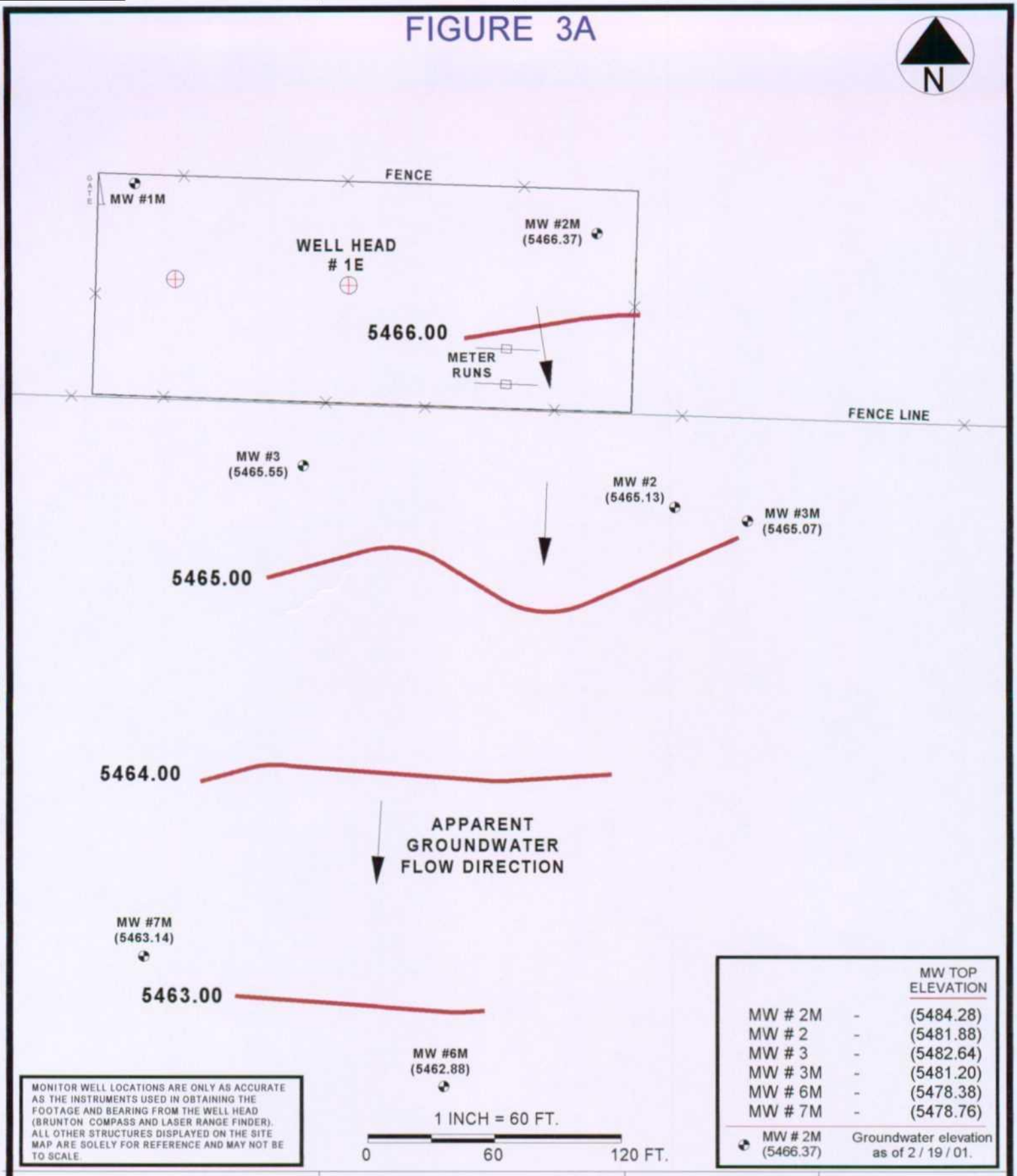
BLAGG ENGINEERING, INC.
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

PROJECT: GW REMEDIATION
DRAWN BY: NJV
FILENAME: 08-21-SM.SKF
REVISED: 09/28/01

SITE MAP

08/01

FIGURE 3A



		MW TOP ELEVATION
MW # 2M	-	(5484.28)
MW # 2	-	(5481.88)
MW # 3	-	(5482.64)
MW # 3M	-	(5481.20)
MW # 6M	-	(5478.38)
MW # 7M	-	(5478.76)

MW # 2M (5466.37) — Groundwater elevation as of 2 / 19 / 01.

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1 INCH = 60 FT.

0 60 120 FT.

MANANA GAS, INC.

NANCY HARTMAN # 1 & # 1E

NE/4 NE/4 SEC. 22, T29N, R11W

SAN JUAN COUNTY, NEW MEXICO

B LAGG ENGINEERING, I NC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

PROJECT: MW SAMPLING

DRAWN BY: NJV

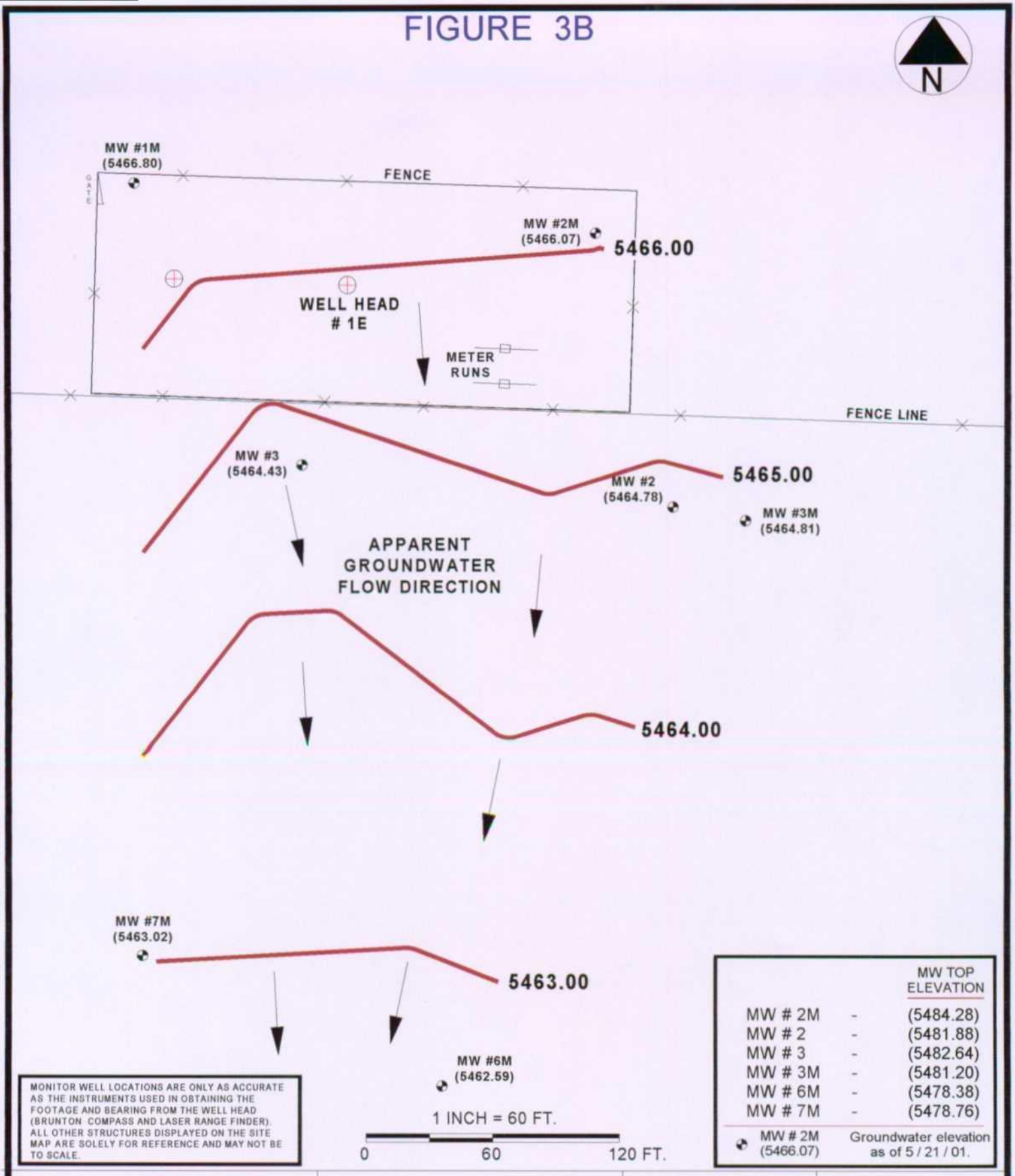
FILENAME: 02-19-GW.SKF

REVISED: 02/22/01

GROUNDWATER CONTOUR MAP

02/01

FIGURE 3B



MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (BRUNTON COMPASS AND LASER RANGE FINDER). ALL OTHER STRUCTURES DISPLAYED ON THE SITE MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

		MW TOP ELEVATION
MW # 2M	-	(5484.28)
MW # 2	-	(5481.88)
MW # 3	-	(5482.64)
MW # 3M	-	(5481.20)
MW # 6M	-	(5478.38)
MW # 7M	-	(5478.76)

MW # 2M (5466.07) — Groundwater elevation as of 5 / 21 / 01.

MANANA GAS, INC.

NANCY HARTMAN # 1 & # 1E

NE/4 NE/4 SEC. 22, T29N, R11W

SAN JUAN COUNTY, NEW MEXICO

B LAGG ENGINEERING, I NC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

PROJECT: MW SAMPLING

DRAWN BY: NJV

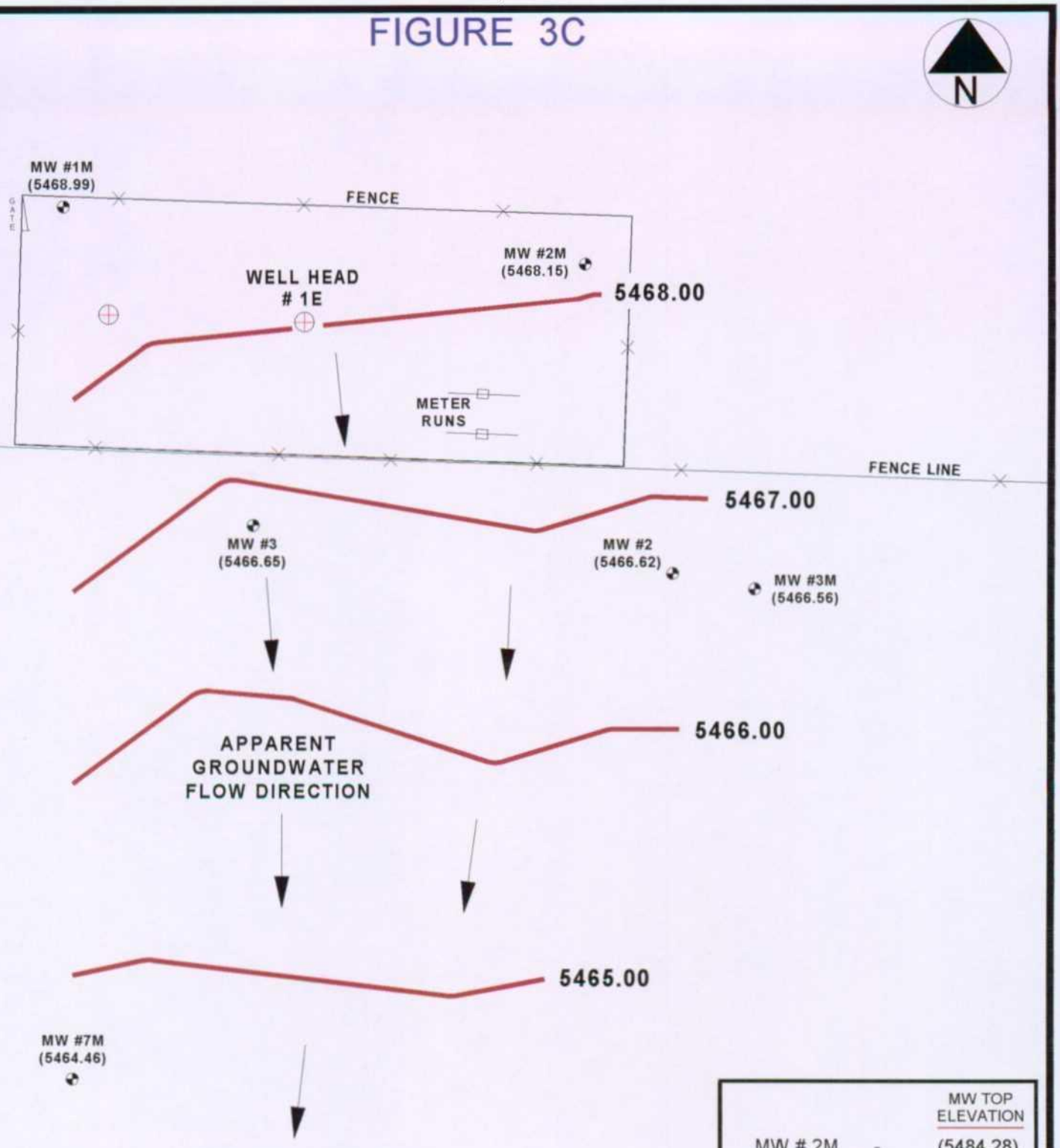
FILENAME: 05-21-GW.SKF

REVISED: 06/06/01

GROUNDWATER CONTOUR MAP

05/01

FIGURE 3C



		MW TOP ELEVATION
MW # 2M	-	(5484.28)
MW # 2	-	(5481.88)
MW # 3	-	(5482.64)
MW # 3M	-	(5481.20)
MW # 6M	-	(5478.38)
MW # 7M	-	(5478.76)

MW # 2M (5468.15) — Groundwater elevation as of 8 / 24 / 01.

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MANANA GAS, INC.

NANCY HARTMAN # 1 & # 1E

NE/4 NE/4 SEC. 22, T29N, R11W

SAN JUAN COUNTY, NEW MEXICO

B LAGG ENGINEERING, I NC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

PROJECT: MW SAMPLING

DRAWN BY: NJV

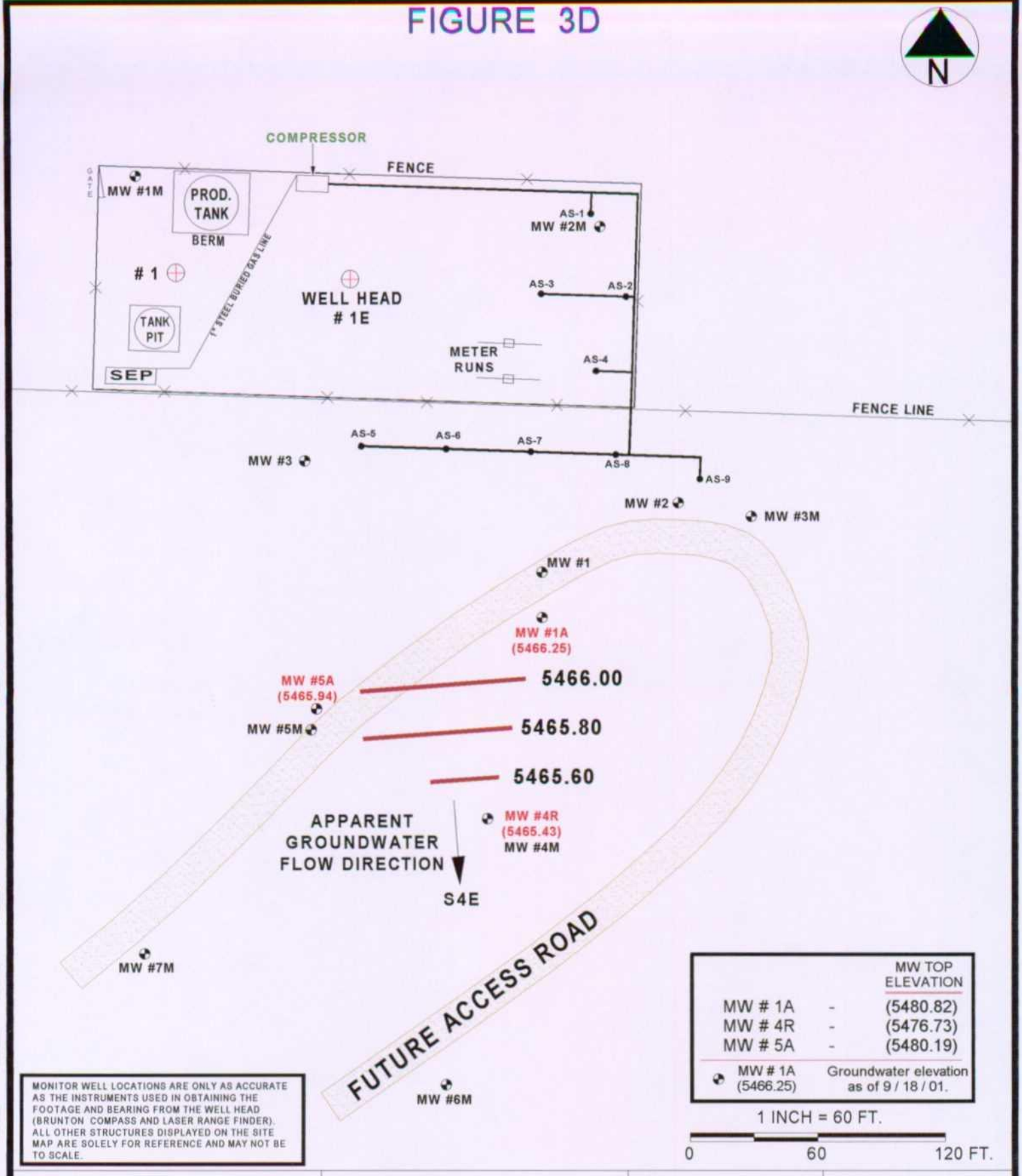
FILENAME: 08-21-GW.SKF

REVISED: 08/28/01

GROUNDWATER CONTOUR MAP

08/01

FIGURE 3D



		MW TOP ELEVATION
MW # 1A	-	(5480.82)
MW # 4R	-	(5476.73)
MW # 5A	-	(5480.19)
MW # 1A (5466.25)		Groundwater elevation as of 9 / 18 / 01.

1 INCH = 60 FT.

0 60 120 FT.

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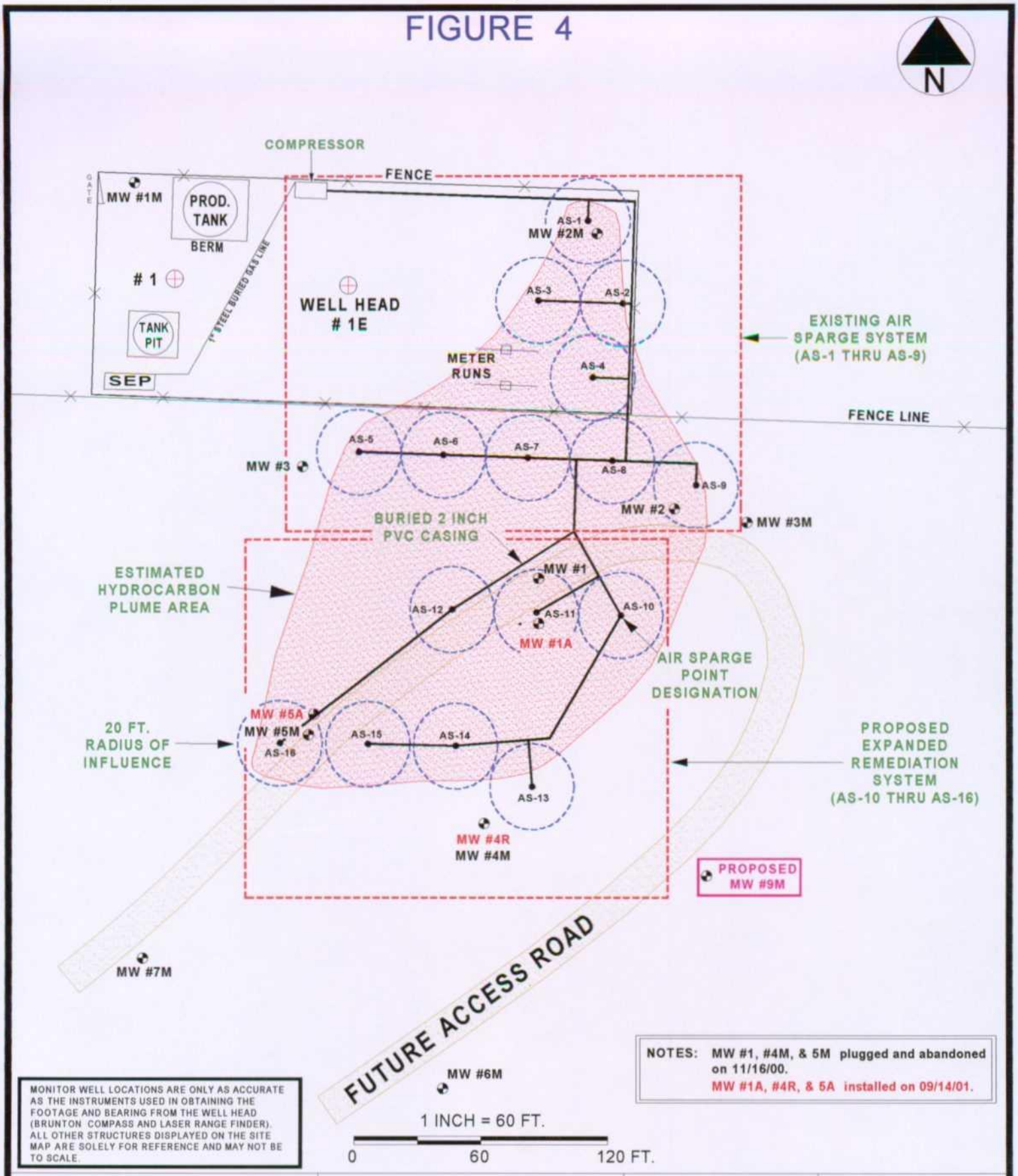
MANANA GAS, INC.
NANCY HARTMAN # 1 & # 1E
NE/4 NE/4 SEC. 22, T29N, R11W
SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

PROJECT: GW REMEDIATION
DRAWN BY: NJV
FILENAME: 09-18-GW.SKF
REVISED: 09/28/01

GROUNDWATER CONTOUR MAP
09/01

FIGURE 4



NOTES: MW #1, #4M, & 5M plugged and abandoned on 11/16/00.
MW #1A, #4R, & 5A installed on 09/14/01.

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MANANA GAS, INC.
NANCY HARTMAN # 1 & # 1E
NE/4 NE/4 SEC. 22, T29N, R11W
SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

PROJECT: GW REMEDIATION
DRAWN BY: NJV
FILENAME: 10-10-PRS.SKF
REVISED: 10/10/01

PROPOSED REMEDIATION SYSTEM ADDITION
10/01

ATTACHMENTS

AIR SPARGE BORE HOLE SCHEMATICS

BLAGG ENGINEERING, Inc.

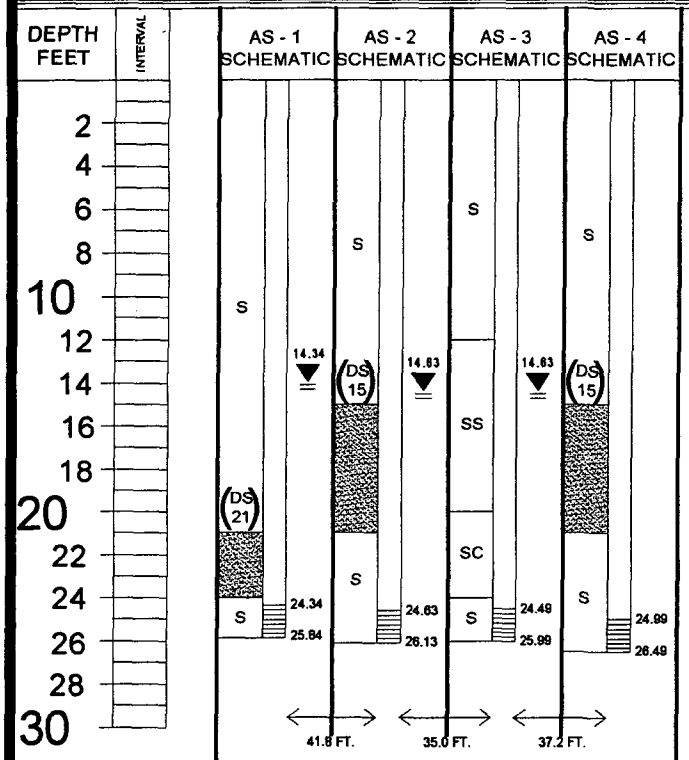
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

AIR SPARGE SYSTEM BORE HOLE SCHEMATIC

PAGE #..... 1

LOCATION NAME:	NANCY HARTMAN # 1E
CLIENT:	MANANA GAS, INC.
CONTRACTOR:	BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED:	MOBILE DRILL RIG
BORING LOCATION:	SEE AIR SPARGING SITE SCHEMATIC.

DATE STARTED 1/10/01
DATE FINISHED 1/15/01
OPERATOR..... KP
PREPARED BY..... NJV



	AS-1	AS-2	AS-3	AS-4
	PELLETS (15.0-16.3) SAND (16.3-17.5)	PELLETS (12.5-15.0) SAND (15.0-16.0)	PELLETS SAND	PELLETS SAND
DATE INSTALLED	1/10	1/10	1/15	1/11

LEGEND

AS-1 = AIR SPARGE POINT DESIGNATION.
S = NON COHESIVE SAND.
SC = COHESIVE TO SLIGHTLY PLASTIC SILTY CLAY.
SS = NON COHESIVE TO SLIGHTLY COHESIVE SILTY SAND.
(ds 19) = DISCOLORED SOIL WITH TOP INTERVAL STATED.
▼ = INDICATES APPROX. WATER TABLE DEPTH.

DRAWING: 1E-AS-1	DATE: 1/16/01	DWN BY: NJV

BLAGG ENGINEERING, Inc.

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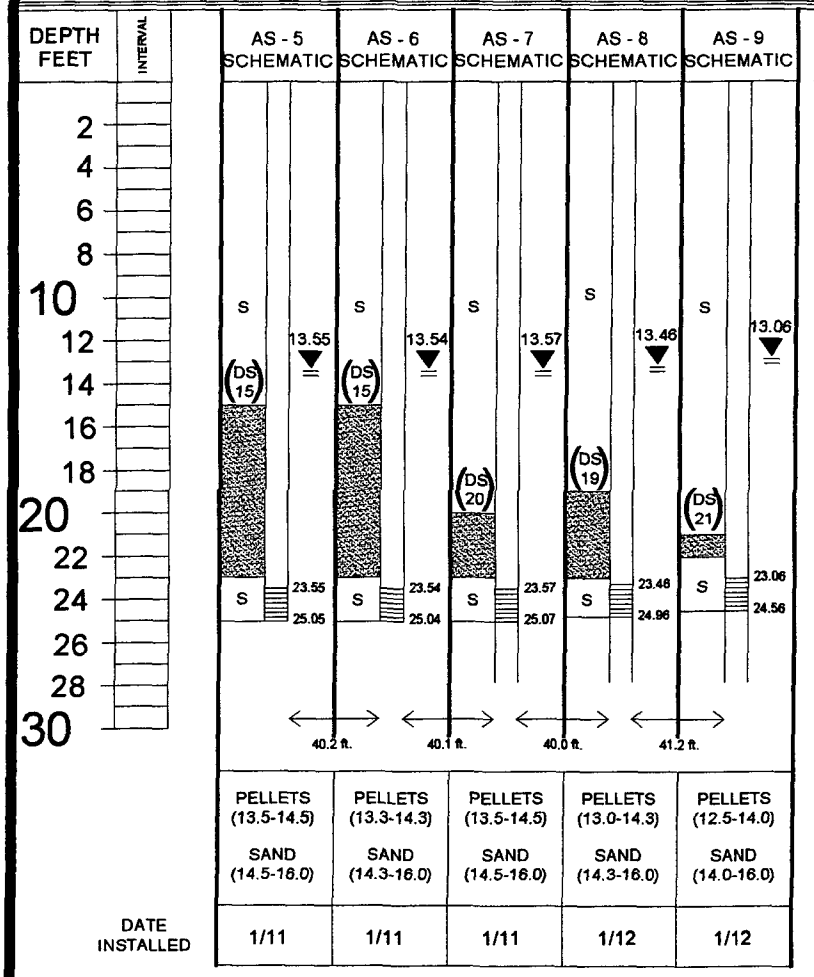
BLOOMFIELD, NM 87413
(505) 632-1199

AIR SPARGE SYSTEM BORE HOLE SCHEMATIC

PAGE #..... 2

LOCATION NAME:	NANCY HARTMAN # 1E
CLIENT:	MANANA GAS, INC.
CONTRACTOR:	BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED:	MOBILE DRILL RIG
BORING LOCATION:	SEE AIR SPARGING SITE SCHEMATIC.

DATE STARTED 1/11/01
DATE FINISHED 1/12/01
OPERATOR..... KP
PREPARED BY..... NJV



NOTE: DISCOLORATION OBSERVED IN AS-5 & AS -6 - LIGHT OLIVE GRAY WITH A SLIGHT HYDROCARBON ODOR @ 15 FEET & CONTINUOUS TO 23 FEET BELOW GROUND SURFACE.

DISCOLORATION OBSERVED IN AS-7, AS-8, & AS -6 - LIGHT TO MEDIUM GRAY WITH STRONG HYDROCARBON ODOR.

LEGEND

AS-1 = AIR SPARGE POINT DESIGNATION.
S = NON COHESIVE SAND.
(ds 19) = DISCOLORED SOIL WITH TOP INTERVAL STATED.
▼ - INDICATES APPROX. WATER TABLE DEPTH.

DRAWING: 1E-AS-2	DATE: 1/12/01	DWN BY: NJV

MONITOR WELL SAMPLING DATA
&
LABORATORY ANALYTICAL TEST RESULTS

ANALYTICAL RESULTS

After developing each monitor well, groundwater samples were collected and analyzed for benzene, toluene, ethylbenzene, and total xylenes (**BTEX**) per USEPA method 8260 or 8021B, polynuclear aromatic hydrocarbon (**PAH**) per USEPA method 8310 (MW #2 & 2M only), trace metals per USEPA method 7471 (mercury only) and 6010B (MW # 1M only), and regulated anions per USEPA method 300.0 (MW # 1M only). Soil samples collected from the on-site southern excavation were also collected and analyzed by a qualified laboratory for total petroleum hydrocarbons (**TPH**) per USEPA method 8015B & BTEX per USEPA method 8021B. All sampling was performed in accordance with USEPA SW-846 protocol.

The field and laboratory results are summarized as follows:

1. The following table summarizes the BTEX results from all monitor wells collected by BEI between November 6th, 2000 and Septebmer18th, 2001.

Note the New Mexico Water Quality Control Commissions (NMWQCC) allowable concentrations at the bottom of each table (1 through 5).

2. Table 2 summarizes the trace metals laboratory analyses collected from MW # 1M on December 11, 2000 and barium, iron, and manganese analytical results collected from MW # 2 on February 19, 2001. The previously reported results from MW #'s 1 & 4M collected on November 6, 2000 are also included.

3. Table 3 summarizes the PAH findings in MW #'s 2 & 2M collected on February 19, 2001 in addition to the previously reported results in MW #1 collected on November 6, 2000.

4. Table 4 summarizes the field parameters [pH and calculated total dissolved solids (TDS)] and regulated anion results from MW # 1M again collected on December 11, 2000 along with the previously reported results MW #'s 1, 2, & 4M collected on November 6, 2000.

5. Table 5 & 6 summarizes the previously reported field and laboratory results from the on-site excavations collected between November 3th and 29th, 2000. It should be noted that the laboratory results revealed within Table 5 for samples 4 @ 7 ft. and 5 @ 12 ft. (*indicated in blue text*) have been appended and were not available during the submittal of the original/initial report dated December 20, 2000. ***Note the NMOCD's regulatory standards for the site at the bottom of each of these tables.***

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT / SAMPLING DATA

CLIENT : MANANA GAS, INC.

CHAIN-OF-CUSTODY # : NA

NANCY HARTMAN # 1E
UNIT A, SEC. 22, T29N, R11W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : September 18, 2001

SAMPLER : N J V

Filename : 09-18-01.WK4

PROJECT MANAGER : J C B

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1A	5480.82	5466.25	14.57	25.00	0935	7.17	900	-	5.25
4R	5476.73	5465.43	11.30	25.00	0835	7.55	900	-	6.75
5A	5480.19	5465.94	14.25	25.00	0905	7.38	1,000	-	5.25

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)
Ideally a minimum of three (3) wellbore volumes:
2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in all MW 's . Collected US EPA method 8021B in all MW 's listed above .
All MW 's developed on 9 / 17 / 01 .
All MW 's installed on 9 / 14 / 01 ; 10 ft. casing & 15 ft. of 0.010 screen.
All MW 's murky brown in color , HC odor detected in # 1A & # 5A .

MW #	DTW
1A	14.57
4R	11.30
5A	14.25

(prior to purging - in ft.)

MW #	DTW
1A	14.83
4R	11.33
5A	14.30

(@ time of sampling - in ft.)

Hall Environmental Analysis Laboratory

Date: *27-Sep-01*

CLIENT: Blagg Engineering
Project: Nancy Hartmann #1E
Lab Order: 0109101

Lab ID: 0109101-01 **Collection Date:** 9/18/01 9:35:00 AM
Client Sample ID: MW #1A **Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX BY EPA 8021B		**SW8021**				Analyst: BDH
Benzene	14000	100		µg/L	200	9/25/01 3:14:53 PM
Toluene	23000	100		µg/L	200	9/25/01 3:14:53 PM
Ethylbenzene	1000	50		µg/L	100	9/24/01 2:44:26 PM
Xylenes, Total	14000	50		µg/L	100	9/24/01 2:44:26 PM
Surr: 4-Bromofluorobenzene	102	74-118		%REC	100	9/24/01 2:44:26 PM

Lab ID: 0109101-02 **Collection Date:** 9/18/01 8:35:00 AM
Client Sample ID: MW #4R **Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX BY EPA 8021B		**SW8021**				Analyst: BDH
Benzene	ND	0.50		µg/L	1	9/26/01 2:12:24 PM
Toluene	ND	0.50		µg/L	1	9/26/01 2:12:24 PM
Ethylbenzene	ND	0.50		µg/L	1	9/26/01 2:12:24 PM
Xylenes, Total	ND	0.50		µg/L	1	9/26/01 2:12:24 PM
Surr: 4-Bromofluorobenzene	96.9	74-118		%REC	1	9/26/01 2:12:24 PM

Lab ID: 0109101-03 **Collection Date:** 9/18/01 9:05:00 AM
Client Sample ID: MW #5A **Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX BY EPA 8021B		**SW8021**				Analyst: BDH
Benzene	640	63		µg/L	125	9/24/01 3:22:17 PM
Toluene	6500	63		µg/L	125	9/24/01 3:22:17 PM
Ethylbenzene	310	63		µg/L	125	9/24/01 3:22:17 PM
Xylenes, Total	3900	63		µg/L	125	9/24/01 3:22:17 PM
Surr: 4-Bromofluorobenzene	101	74-118		%REC	125	9/24/01 3:22:17 PM

Qualifiers:
- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

CHAIN-OF-CUSTODY RECORD

Client: BLAGG ENGINEERING / MANANA GAS, INC.

Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: (505) 632-1199

Fax #: (505) 632-3903

Project Name: NANCY HARTMAN #1E

Project #:

Project Manager: JEFF BLAGG

Sampler: NELSON VELEZ

Samples Cold?: ☒ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative H_2O_2	Preservative HCl		HEAL No.
9/18/01	0935	WATER	MW #1A	2		✓		0109101-1
9/18/01	0835	WATER	MW # 4R	2		✓		-2
9/18/01	0905	WATER	MW # 5A	2		✓		-3

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
9/18/01	1000	- NELSON VELEZ	9/18/01 1645
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite A
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

ANALYSIS REQUEST

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B MOD (Gas/Diesel)	TPH (Method 418.1)	Volatiles Full List (8021)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Cations (Na, K, Ca, Mg)	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260 (VOA)	8270 (Semi-VOA)			Air Bubbles or Headspace (Y or N)
✓																
✓																
✓																

Remarks:
BTEX (8021B) ONLY. PLEASE FAX RESULTS UPON COMPLETION. MV

SEP-27-2001 (THU) 14:57 HALL ENVIRONMENTAL (FAX)505 345 4107 P.001/007

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT / SAMPLING DATA

CLIENT : MANANA GAS, INC.

CHAIN-OF-CUSTODY # : NA

NANCY HARTMAN # 1E
UNIT A, SEC. 22, T29N, R11W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : December 11, 2000

SAMPLER : N J V

Filename : 12-11-00.WK4

PROJECT MANAGER : J C B

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1M	5484.83	5468.83	16.00	24.00	-	7.30	1,200	12.22	INITIAL
					-	7.31	1,300	13.44	3.00
					-	7.33	1,200	13.78	3.25
					-	7.36	1,200	13.33	3.50
					-	7.37	1,200	13.28	3.75
					1300	7.37	1,200	13.39	4.00
2M	5484.28	5467.79	16.49	23.50	-	7.29	1,300	12.22	INITIAL
					-	7.34	1,300	11.89	2.75
					-	7.35	1,300	12.11	3.00
					-	7.36	1,300	12.11	3.25
					1400	7.34	1,300	12.00	3.50

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW 's # 1M & # 2M . Collected USEPA method 8260, anion, & ICAP metals from MW # 1M, collected USEPA method 8260 from MW # 2M .

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT / SAMPLING DATA

CLIENT : MANANA GAS, INC.

CHAIN-OF-CUSTODY # : _____

NANCY HARTMAN # 1E
UNIT A, SEC. 22, T29N, R11W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : February 19, 2001

SAMPLER : N J V

Filename : 02-19-01.WK4

PROJECT MANAGER : J C B

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
2M	5484.28	5466.37	17.91	23.50	1515	7.24	1,300	13.11	2.75
2	5481.88	5465.13	16.75	22.71	1415	7.21	1,200	13.00	3.00
3	5482.64	5465.55	17.09	23.14	1335	7.66	1,400	14.11	1.00
3M	5481.20	5465.07	16.13	23.50	1210	7.19	1,000	15.56	3.75
6M	5478.38	5462.68	15.70	24.00	1135	7.41	1,100	13.22	4.00
7M	5478.76	5463.14	15.62	19.00	1040	7.30	1,200	14.72	1.75

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)
Ideally a minimum of three (3) wellbore volumes:
2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW 's # 2 , 2M , 3M , & 7M . Fair recovery in MW # 6M .
Very poor recovery in MW # 3 (recovery rate = 1.69 ft. / hr.) .
Collected US EPA Method 8021B in all MW's listed above . Collected PAH's
from MW #'s 2 & 2M . Collected full suite metals from MW # 2M . Collected
barium , iron , & manganese metals from MW # 2 .

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT / SAMPLING DATA

CLIENT : MANANA GAS, INC.

CHAIN-OF-CUSTODY # : NA

NANCY HARTMAN # 1E
UNIT A, SEC. 22, T29N, R11W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : May 21, 2001

SAMPLER : N J V

Filename : 05-21-01.WK4

PROJECT MANAGER : J C B

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1M	5484.83	5466.80	18.03	24.00	-	-	-	-	-
2M	5484.28	5466.07	18.21	23.50	1220	8.04	1,000	17.00	2.75
2	5481.88	5464.78	17.10	22.71	1310	8.10	600	17.17	2.50
3	5482.64	5464.43	18.21	23.14	1335	7.48	1,000	15.28	1.00
3M	5481.20	5464.81	16.39	23.50	1355	7.87	700	17.17	3.50
6M	5478.38	5462.59	15.79	24.00	1250	7.19	1,100	17.00	2.00
7M	5478.76	5463.02	15.74	19.00	1300	7.18	1,200	14.72	1.75

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)
Ideally a minimum of three (3) wellbore volumes:
2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW 's # 2M , 3M , & 7M . Very poor recovery in MW # 3 bailed MW 's # 2 , 3 , & 6M down to TD , then allowed to recover to near original static water level . Collected US EPA method 8021B in all MW listed above except # 1M . Collected DTW on 5 / 22 / 01 after shutting down compressor @ time 1235 on 5 / 21 /01.

MW #	DTW
2M	17.90
2	17.69
3	21.29
3M	16.60
6M	15.79
7M	15.74

(@ time of sampling - in ft.)

MW #	DTW
2M	17.83
2	16.96
3	17.59
3M	16.28
6M	15.79
7M	15.74

(prior to purging - in ft.)

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT / SAMPLING DATA

CLIENT : MANANA GAS, INC.

CHAIN-OF-CUSTODY # : NA

NANCY HARTMAN # 1E
UNIT A, SEC. 22, T29N, R11W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : August 21, 2001

SAMPLER : N J V

Filename : 08-21-01.WK4

PROJECT MANAGER : J C B

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1M	5484.83	5468.99	15.84	24.00	-	-	-	-	-
2M	5484.28	5468.15	16.13	23.50	1335	8.10	900	-	4.00
2	5481.88	5466.62	15.26	22.71	0845	8.44	500	-	2.25
3	5482.64	5466.65	15.99	23.14	-	-	-	-	-
3M	5481.20	5466.56	14.64	23.50	-	-	-	-	-
6M	5478.38	5464.01	14.37	24.00	0920	7.27	1,300	-	2.75
7M	5478.76	5464.46	14.30	19.00	-	-	-	-	-

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)
Ideally a minimum of three (3) wellbore volumes:
2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2".

Excellent recovery in MW 's # 2M . Good recovery in MW #'s 2 & 6M . Bailed MW #'s 2 & 6M down to TD , then allowed to recover to near original static water level . Collected US EPA method 8021B in MW #'s 2 , 2M , & 6M only . Collected DTW on 8 / 24 / 01 after shutting down compressor @ time 1130 on 8 / 22 /01. Collected MW # 2M on 8 / 16 / 01 & MW #'s 2 & 6M on 8 / 21 /01.

MW #	DTW
2	14.97
2M	15.60
6M	14.41

(prior to purging - in ft.)

MW #	DTW
2	15.40
2M	15.65
6M	15.05

(@ time of sampling - in ft.)

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT / SAMPLING DATA

CLIENT : MANANA GAS, INC.

CHAIN-OF-CUSTODY # : NA

NANCY HARTMAN # 1E
UNIT A, SEC. 22, T29N, R11W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : September 18, 2001

SAMPLER : N J V

Filename : 09-18-01.WK4

PROJECT MANAGER : J C B

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1A	5480.82	5466.25	14.57	25.00	0935	7.17	900	-	5.25
4R	5476.73	5465.43	11.30	25.00	0835	7.55	900	-	6.75
5A	5480.19	5465.94	14.25	25.00	0905	7.38	1,000	-	5.25

NOTES : Volume of water purged from well prior to sampling; V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)
Ideally a minimum of three (3) wellbore volumes:
2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in all MW 's. Collected US EPA method 8021B in all MW 's listed above.
All MW 's developed on 9 / 17 / 01 .
All MW 's installed on 9 / 14 / 01 ; 10 ft. casing & 15 ft. of 0.010 screen.
All MW 's murky brown in color , HC odor detected in # 1A & # 5A .

MW #	DTW
1A	14.57
4R	11.30
5A	14.25

(prior to purging - in ft.)

MW #	DTW
1A	14.83
4R	11.33
5A	14.30

(@ time of sampling - in ft.)

RECEIVED DEC 15 2000

Hall Environmental Analysis Laboratory

December 14, 2000

Dennis Ajeman
Envirotech
5796 US Highway 64
Farmington, NM 87401
TEL: (505) 632-0615
FAX (505) 632-1865

RE: Blagg/Manana Gas, Inc

Order No.: 0011149

Dear Dennis Ajeman:

Hall Environmental Analysis Laboratory received 2 samples on 11/30/00 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Detection limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Senior Project Manager
Nancy McDuffie, Assistant Laboratory Manager

4901 Hawkins NE, Suite A, Albuquerque, NM 87109
Ph (505) 345-3975, Fax (505) 345-4107

Hall Environmental Analysis Laboratory

Date: *14-Dec-00*

CLIENT: Envirotech
Project: Blagg/Manana Gas, Inc
Lab Order: 0011149

CASE NARRATIVE

Sample 4@7'/18991 did not have a recoverable surrogate, for gasoline range organics, due to matrix interferences.

Hall Environmental Analysis Laboratory

Date: *14-Dec-00*

CLIENT: Envirotech
Lab Order: 0011149
Project: Blagg/Manana Gas, Inc
Lab ID: 0011149-02A

Client Sample ID: 4@7'/18991
Collection Date: 11/29/00 9:45:00 AM
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
DRO BY 8015B		**SW8015**				Analyst: **JT**
Diesel Range Organics (DRO)	77	5.0		mg/Kg	1	12/11/00
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/11/00
Surr: DNOP	105	74-125		%REC	1	12/11/00
GRO BY 8015B		**SW8015**				Analyst: **AFM**
Gasoline Range Organics (GRO)	1800	50		mg/Kg	10	12/1/00
Surr: BFB	0	74-118	S	%REC	10	12/1/00
VOLATILES BY 8260B- DRY WEIGHT BASIS		**SW8260B**				Analyst: **HSB**
Benzene	ND	0.50		mg/Kg	10	12/1/00
Bromobenzene	ND	0.50		mg/Kg	10	12/1/00
Bromodichloromethane	ND	0.50		mg/Kg	10	12/1/00
Bromoform	ND	0.50		mg/Kg	10	12/1/00
Bromomethane	ND	0.50		mg/Kg	10	12/1/00
Carbon tetrachloride	ND	0.50		mg/Kg	10	12/1/00
Chlorobenzene	ND	0.50		mg/Kg	10	12/1/00
Chloroethane	ND	1.0		mg/Kg	10	12/1/00
Chloroform	ND	0.50		mg/Kg	10	12/1/00
Chloromethane	ND	0.50		mg/Kg	10	12/1/00
2-Chlorotoluene	ND	0.50		mg/Kg	10	12/1/00
4-Chlorotoluene	ND	0.50		mg/Kg	10	12/1/00
cis-1,2-Dichloroethene	ND	0.50		mg/Kg	10	12/1/00
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	12/1/00
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	12/1/00
Dibromochloromethane	ND	0.50		mg/Kg	10	12/1/00
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	12/1/00
Dibromomethane	ND	1.0		mg/Kg	10	12/1/00
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	12/1/00
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	12/1/00
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	12/1/00
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	12/1/00
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	12/1/00
1,1-Dichloroethane	ND	0.50		mg/Kg	10	12/1/00
1,1-Dichloroethene	ND	0.50		mg/Kg	10	12/1/00
1,2-Dichloropropane	ND	0.50		mg/Kg	10	12/1/00
1,3-Dichloropropane	ND	0.50		mg/Kg	10	12/1/00
2,2-Dichloropropane	ND	0.50		mg/Kg	10	12/1/00
1,1-Dichloropropene	ND	0.50		mg/Kg	10	12/1/00
Ethylbenzene	11	5.0		mg/Kg	100	12/4/00
Hexachlorobutadiene	ND	0.50		mg/Kg	10	12/1/00
Isopropylbenzene	2.9	0.50		mg/Kg	10	12/1/00
4-Isopropyltoluene	2.2	0.50		mg/Kg	10	12/1/00

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *14-Dec-00*

CLIENT: Envirotech
Client Sample ID: 4@7'/18991
Lab Order: 0011149
Collection Date: 11/29/00 9:45:00 AM
Project: Blagg/Manana Gas, Inc
Lab ID: 0011149-02A
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	12/1/00
Methylene chloride	ND	1.5		mg/Kg	10	12/1/00
1-Methylnaphthalene	1.8	1.0		mg/Kg	10	12/1/00
2-Methylnaphthalene	5.5	1.0		mg/Kg	10	12/1/00
n-Butylbenzene	4.8	0.50		mg/Kg	10	12/1/00
n-Propylbenzene	5.3	0.50		mg/Kg	10	12/1/00
Naphthalene	4.1	1.0		mg/Kg	10	12/1/00
sec-Butylbenzene	1.6	0.50		mg/Kg	10	12/1/00
Styrene	ND	0.50		mg/Kg	10	12/1/00
tert-Butylbenzene	ND	0.50		mg/Kg	10	12/1/00
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	12/1/00
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	12/1/00
Tetrachloroethene	ND	0.50		mg/Kg	10	12/1/00
Toluene	16	5.0		mg/Kg	100	12/4/00
trans-1,2-Dichloroethene	ND	0.50		mg/Kg	10	12/1/00
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	12/1/00
1,2,3-Trichlorobenzene	ND	0.50		mg/Kg	10	12/1/00
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	12/1/00
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	12/1/00
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	12/1/00
Trichloroethene	ND	0.50		mg/Kg	10	12/1/00
Trichlorofluoromethane	ND	0.50		mg/Kg	10	12/1/00
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	12/1/00
1,2,4-Trimethylbenzene	48	5.0		mg/Kg	100	12/4/00
1,3,5-Trimethylbenzene	21	5.0		mg/Kg	100	12/4/00
Vinyl chloride	ND	1.0		mg/Kg	10	12/1/00
Xylenes, Total	160	5.0		mg/Kg	100	12/4/00
Surr: 1,2-Dichloroethane-d4	105	65-114		%REC	10	12/1/00
Surr: 4-Bromofluorobenzene	106	74-122		%REC	100	12/4/00
Surr: Dibromofluoromethane	109	65-113		%REC	10	12/1/00
Surr: Toluene-d8	113	60-123		%REC	10	12/1/00

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *14-Dec-00*

CLIENT: .Envirotech
Lab Order: 0011149
Project: Blagg/Manana Gas, Inc
Lab ID: 0011149-01A

Client Sample ID: 5@12'/18890
Collection Date: 11/29/00 10:00:00 AM
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
DRO BY 8015B		**SW8015**				Analyst: **JT**
Diesel Range Organics (DRO)	2800	50		mg/Kg	1	12/13/00
Motor Oil Range Organics (MRO)	ND	500		mg/Kg	1	12/13/00
Surr: DNOP	79.0	74-125		%REC	1	12/13/00
GRO BY 8015B		**SW8015**				Analyst: **AFM**
Gasoline Range Organics (GRO)	80	50		mg/Kg	10	12/1/00
Surr: BFB	108	74-118		%REC	10	12/1/00
VOLATILES BY 8260B- DRY WEIGHT BASIS		**SW8260B**				Analyst: **HSB**
Benzene	0.45	0.25		mg/Kg	5	12/4/00
Bromobenzene	ND	0.25		mg/Kg	5	12/4/00
Bromodichloromethane	ND	0.25		mg/Kg	5	12/4/00
Bromoform	ND	0.25		mg/Kg	5	12/4/00
Bromomethane	ND	0.25		mg/Kg	5	12/4/00
Carbon tetrachloride	ND	0.25		mg/Kg	5	12/4/00
Chlorobenzene	ND	0.25		mg/Kg	5	12/4/00
Chloroethane	ND	0.50		mg/Kg	5	12/4/00
Chloroform	ND	0.25		mg/Kg	5	12/4/00
Chloromethane	ND	0.25		mg/Kg	5	12/4/00
2-Chlorotoluene	ND	0.25		mg/Kg	5	12/4/00
4-Chlorotoluene	ND	0.25		mg/Kg	5	12/4/00
cis-1,2-Dichloroethene	ND	0.25		mg/Kg	5	12/4/00
cis-1,3-Dichloropropene	ND	0.25		mg/Kg	5	12/4/00
1,2-Dibromo-3-chloropropane	ND	0.50		mg/Kg	5	12/4/00
Dibromochloromethane	ND	0.25		mg/Kg	5	12/4/00
1,2-Dibromoethane (EDB)	ND	0.25		mg/Kg	5	12/4/00
Dibromomethane	ND	0.50		mg/Kg	5	12/4/00
1,2-Dichlorobenzene	ND	0.25		mg/Kg	5	12/4/00
1,3-Dichlorobenzene	ND	0.25		mg/Kg	5	12/4/00
1,4-Dichlorobenzene	ND	0.25		mg/Kg	5	12/4/00
Dichlorodifluoromethane	ND	0.25		mg/Kg	5	12/4/00
1,2-Dichloroethane (EDC)	ND	0.25		mg/Kg	5	12/4/00
1,1-Dichloroethane	ND	0.25		mg/Kg	5	12/4/00
1,1-Dichloroethene	ND	0.25		mg/Kg	5	12/4/00
1,2-Dichloropropane	ND	0.25		mg/Kg	5	12/4/00
1,3-Dichloropropane	ND	0.25		mg/Kg	5	12/4/00
2,2-Dichloropropane	ND	0.25		mg/Kg	5	12/4/00
1,1-Dichloropropene	ND	0.25		mg/Kg	5	12/4/00
Ethylbenzene	0.45	0.25		mg/Kg	5	12/4/00
Hexachlorobutadiene	ND	0.25		mg/Kg	5	12/4/00
Isopropylbenzene	ND	0.25		mg/Kg	5	12/4/00
4-Isopropyltoluene	ND	0.25		mg/Kg	5	12/4/00

Qualifiers:

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B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *14-Dec-00*

CLIENT: Envirotech
Lab Order: 0011149
Project: Blagg/Manana Gas, Inc
Lab ID: 0011149-01A

Client Sample ID: 5@12'/18890
Collection Date: 11/29/00 10:00:00 AM
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
Methyl tert-butyl ether (MTBE)	ND	0.25		mg/Kg	5	12/4/00
Methylene chloride	ND	0.75		mg/Kg	5	12/4/00
1-Methylnaphthalene	ND	0.50		mg/Kg	5	12/4/00
2-Methylnaphthalene	ND	0.50		mg/Kg	5	12/4/00
n-Butylbenzene	ND	0.25		mg/Kg	5	12/4/00
n-Propylbenzene	ND	0.25		mg/Kg	5	12/4/00
Naphthalene	ND	0.50		mg/Kg	5	12/4/00
sec-Butylbenzene	ND	0.25		mg/Kg	5	12/4/00
Styrene	ND	0.25		mg/Kg	5	12/4/00
tert-Butylbenzene	ND	0.25		mg/Kg	5	12/4/00
1,1,1,2-Tetrachloroethane	ND	0.25		mg/Kg	5	12/4/00
1,1,2,2-Tetrachloroethane	ND	0.25		mg/Kg	5	12/4/00
Tetrachloroethene	ND	0.25		mg/Kg	5	12/4/00
Toluene	1.8	0.25		mg/Kg	5	12/4/00
trans-1,2-Dichloroethene	ND	0.25		mg/Kg	5	12/4/00
trans-1,3-Dichloropropene	ND	0.25		mg/Kg	5	12/4/00
1,2,3-Trichlorobenzene	ND	0.25		mg/Kg	5	12/4/00
1,2,4-Trichlorobenzene	ND	0.25		mg/Kg	5	12/4/00
1,1,1-Trichloroethane	ND	0.25		mg/Kg	5	12/4/00
1,1,2-Trichloroethane	ND	0.25		mg/Kg	5	12/4/00
Trichloroethene	ND	0.25		mg/Kg	5	12/4/00
Trichlorofluoromethane	ND	0.25		mg/Kg	5	12/4/00
1,2,3-Trichloropropane	ND	0.50		mg/Kg	5	12/4/00
1,2,4-Trimethylbenzene	0.27	0.25		mg/Kg	5	12/4/00
1,3,5-Trimethylbenzene	ND	0.25		mg/Kg	5	12/4/00
Vinyl chloride	ND	0.50		mg/Kg	5	12/4/00
Xylenes, Total	4.2	0.25		mg/Kg	5	12/4/00
Surr: 1,2-Dichloroethane-d4	83.1	65-114		%REC	5	12/4/00
Surr: 4-Bromofluorobenzene	111	74-122		%REC	5	12/4/00
Surr: Dibromofluoromethane	93.5	65-113		%REC	5	12/4/00
Surr: Toluene-d8	95.2	60-123		%REC	5	12/4/00

Qualifiers:

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S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *14-Dec-00*

CLIENT: Envirotech
Work Order: 0011149
Project: Blagg/Manana Gas, Inc

QC SUMMARY REPORT
Method Blank

Sample ID: **MB-136** Batch ID: **136** Test Code: **SW8015** Units: **mg/Kg** Analysis Date: **12/13/00** Prep Date: **12/13/00**
Client ID: Run ID: **FIDHP_001211C** SeqNo: **5347**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	5.0									
Motor Oil Range Organics (MRO)	ND	50									
Surr: DNOP	108	0	100	0	108	74	125	0			

Sample ID: **MB-120** Batch ID: **120** Test Code: **SW8015** Units: **mg/Kg** Analysis Date: **12/11/00** Prep Date: **12/11/00**
Client ID: Run ID: **FIDHP_001211C** SeqNo: **5349**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	5.0									
Motor Oil Range Organics (MRO)	ND	50									
Surr: DNOP	114	0	100	0	114	74	125	0			

Sample ID: **MBLK** Batch ID: **R256** Test Code: **SW8015** Units: **mg/Kg** Analysis Date: **12/1/00** Prep Date:
Client ID: Run ID: **PIDFID_001201A** SeqNo: **4781**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0									
Surr: BFB	100	0	100	0	100	74	118	0			

Qualifiers:
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J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Envirotech
Work Order: 0011149
Project: Blagg/Manana Gas, Inc

QC SUMMARY REPORT
Method Blank

Sample ID: **EB 11-30 100ul** Batch ID: **R233** Test Code: **SW8260B** Units: **mg/Kg** Analysis Date: **12/1/00** Prep Date: **11/30/00**
Client ID: Run ID: **VAL_001201A** SeqNo: **4362**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.050									
Bromobenzene	ND	0.050									
Bromodichloromethane	ND	0.050									
Bromoform	ND	0.050									
Bromomethane	ND	0.050									
Carbon tetrachloride	ND	0.050									
Chlorobenzene	ND	0.050									
Chloroethane	ND	0.10									
Chloroform	ND	0.050									
Chloromethane	ND	0.050									
2-Chlorotoluene	ND	0.050									
4-Chlorotoluene	ND	0.050									
cis-1,2-Dichloroethene	ND	0.050									
cis-1,3-Dichloropropene	ND	0.050									
1,2-Dibromo-3-chloropropane	ND	0.10									
Dibromochloromethane	ND	0.050									
1,2-Dibromoethane (EDB)	ND	0.050									
Dibromomethane	ND	0.10									
1,2-Dichlorobenzene	ND	0.050									
1,3-Dichlorobenzene	ND	0.050									
1,4-Dichlorobenzene	ND	0.050									
Dichlorodifluoromethane	ND	0.050									
1,2-Dichloroethane (EDC)	ND	0.050									
1,1-Dichloroethane	ND	0.050									
1,1-Dichloroethene	ND	0.050									
1,2-Dichloropropane	ND	0.050									
1,3-Dichloropropane	ND	0.050									
2,2-Dichloropropane	ND	0.050									

Qualifiers:
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S - Spike Recovery outside accepted recovery limits
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B - Analyte detected in the associated Method Blank

CLIENT: Envirotech
Work Order: 0011149
Project: Blagg/Manana Gas, Inc

QC SUMMARY REPORT
Method Blank

1,1-Dichloropropene	ND	0.050							
Ethylbenzene	ND	0.050							
Hexachlorobutadiene	ND	0.050							
Isopropylbenzene	ND	0.050							
4-Isopropyltoluene	ND	0.050							
Methyl tert-butyl ether (MTBE)	ND	0.050							
Methylene chloride	0.0261	0.15							J
1-Methylnaphthalene	ND	0.10							
2-Methylnaphthalene	ND	0.10							
n-Butylbenzene	ND	0.050							
n-Propylbenzene	ND	0.050							
Naphthalene	ND	0.10							
sec-Butylbenzene	ND	0.050							
Styrene	ND	0.050							
tert-Butylbenzene	ND	0.050							
1,1,1,2-Tetrachloroethane	ND	0.050							
1,1,2,2-Tetrachloroethane	ND	0.050							
Tetrachloroethene	ND	0.050							
Toluene	ND	0.050							
trans-1,2-Dichloroethene	ND	0.050							
trans-1,3-Dichloropropene	ND	0.050							
1,2,3-Trichlorobenzene	ND	0.050							
1,2,4-Trichlorobenzene	ND	0.050							
1,1,1-Trichloroethane	ND	0.050							
1,1,2-Trichloroethane	ND	0.050							
Trichloroethene	ND	0.050							
Trichlorofluoromethane	ND	0.050							
1,2,3-Trichloropropane	ND	0.10							
1,2,4-Trimethylbenzene	ND	0.050							
1,3,5-Trimethylbenzene	ND	0.050							
Vinyl chloride	ND	0.10							
Xylenes, Total	ND	0.050							
Surr: 1,2-Dichloroethane-d4	0.4438	0	0.5	0	88.8	65	114	0	

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CLIENT: Envirotech
Work Order: 0011149
Project: Blagg/Manana Gas, Inc

QC SUMMARY REPORT
Method Blank

Surr: 4-Bromofluorobenzene	0.5478	0	0.5	0	110	74	122	0
Surr: Dibromofluoromethane	0.4566	0	0.5	0	91.3	65	113	0
Surr: Toluene-d8	0.4702	0	0.5	0	94.0	60	123	0

Qualifiers:
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J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: *14-Dec-00*

CLIENT: Envirotech
Work Order: 0011149
Project: Blagg/Manana Gas, Inc

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **LCS** Batch ID: **R256** Test Code: **SW8015** Units: **mg/Kg** Analysis Date: **12/1/00** Prep Date:
Client ID: Run ID: **PIDFID_001201A** SeqNo: **4782**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25.6	5.0	25	0	102	82	124	0			

Sample ID: **LCSD** Batch ID: **R256** Test Code: **SW8015** Units: **mg/Kg** Analysis Date: **12/1/00** Prep Date:
Client ID: Run ID: **PIDFID_001201A** SeqNo: **4783**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25.8	5.0	25	0	103	82	124	25.6	0.778	18	

Sample ID: **bs 40ng** Batch ID: **R233** Test Code: **SW8260B** Units: **mg/Kg** Analysis Date: **12/1/00** Prep Date:
Client ID: Run ID: **VAL_001201A** SeqNo: **4363**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.4152	0.050	0.4	0	104	74	119	0			
Chlorobenzene	0.4115	0.050	0.4	0	103	72	123	0			
1,1-Dichloroethene	0.4244	0.050	0.4	0	106	71	123	0			
Toluene	0.4201	0.050	0.4	0	105	73	123	0			
Trichloroethene	0.434	0.050	0.4	0	108	69	130	0			

Sample ID: **40ng mid** Batch ID: **R233** Test Code: **SW8260B** Units: **mg/Kg** Analysis Date: **12/1/00** Prep Date:
Client ID: Run ID: **VAL_001201A** SeqNo: **4364**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.405	0.050	0.4	0	101	74	119	0.4152	2.49	21	
Chlorobenzene	0.3992	0.050	0.4	0	99.8	72	123	0.4115	3.03	22	
1,1-Dichloroethene	0.418	0.050	0.4	0	104	71	123	0.4244	1.52	20	
Toluene	0.4094	0.050	0.4	0	102	73	123	0.4201	2.58	23	
Trichloroethene	0.4294	0.050	0.4	0	107	69	130	0.434	1.07	23	

Qualifiers:
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B - Analyte detected in the associated Method Blank

CLIENT: Envirotech
Work Order: 0011149
Project: Blagg/Manana Gas, Inc

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **bs 40ng** Batch ID: **R238** Test Code: **SW8260B** Units: **mg/Kg** Analysis Date: **12/4/00** Prep Date:
Client ID: Run ID: **VAL_001204A** SeqNo: **4461**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.401	0.050	0.4	0	100	74	119	0			
Chlorobenzene	0.3911	0.050	0.4	0	97.8	72	123	0			
1,1-Dichloroethene	0.3786	0.050	0.4	0	94.7	71	123	0			
Toluene	0.4007	0.050	0.4	0	100	73	123	0			
Trichloroethene	0.4214	0.050	0.4	0	105	69	130	0			

Sample ID: **bsd 40ng** Batch ID: **R238** Test Code: **SW8260B** Units: **mg/Kg** Analysis Date: **12/4/00** Prep Date:
Client ID: Run ID: **VAL_001204A** SeqNo: **4462**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.4083	0.050	0.4	0	102	74	119	0.401	1.80	21	
Chlorobenzene	0.411	0.050	0.4	0	103	72	123	0.3911	4.96	22	
1,1-Dichloroethene	0.3785	0.050	0.4	0	94.6	71	123	0.3786	0.0264	20	
Toluene	0.4098	0.050	0.4	0	102	73	123	0.4007	2.25	23	
Trichloroethene	0.4232	0.050	0.4	0	106	69	130	0.4214	0.426	23	

Qualifiers:
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S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite A
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Envirotech Inc

Address: 5796 US Hwy 64
Farmington NM 87401

Phone #: 505 ~~[illegible]~~ 632-0615

Fax #: 505 632-1865

Project Name: Blagg/Manana Gas, Inc

Project #: 403410

Project Manager: Denis Ajeman

Sampler: NJV

Samples Cold?: ☒ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HCl	Preservative:	HEAL No.
11/29/00	10:00	Soil	5@12' / 18890	1 4oz				0011149-1
⊥	9:45	⊥	4@7' / 18991	1 4oz				-2

ANALYSIS REQUEST

Sample I.D. No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B MOD (Gas/Diesel)	TPH (Method 418.1)	Volatiles Full List (8021)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Cations (Na, K, Ca, Mg)	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260 (VOA)	8270 (Semi-VOA)			Air Bubbles or Headspace (Y or N)
5@12' / 18890			X										X				
4@7' / 18991			X										X				

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
11/29/00	12:00	Christ Walter [signature]	[signature] 8am 11/30/00
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: Ref PO# E2960

Temp @ 2°C

CHAIN OF CUSTODY RECORD

08251

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
BLAGG/MANANA GAS, INC.	NANCY HARTMAN #1E – BLOW PIT	
Sampler: NJV	Client No. 40341C	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	8260	TPH 8015					Remarks
(5) @ 12'	11/29/00	1000	18890	SOIL	1	✓	✓					PRESERVED - COOL
(4) @ 7'	11/29/00	0745	18891	SOIL	1	✓	✓					PRESERVED - COOL

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	11/29/00	1100	Diane L. Adams	11-29-00	1100
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 632-0615

Sample Receipt	Y	N	N/A
Received Intact	✓		
Cool - Ice/Blue Ice	✓		

Hall Environmental
Analysis Laboratory

January 03, 2001

Jeff Blagg
Blagg Engineering
110 North 4th St.
Bloomfield, NM 87413
TEL: (505) 632-1199
FAX (505) 632-3903

RE: Nancy Hartman #1E

Order No.: 0012084

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 3 samples on 12/12/00 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Detection limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Senior Project Manager
Nancy McDuffie, Assistant Laboratory Manager

Hall Environmental Analysis Laboratory

Date: *03-Jan-01*

CLIENT: Blagg Engineering
Client Sample ID: MW-1M
Lab Order: 0012084
Collection Date: 12/11/00 1:00:00 PM
Project: Nancy Hartman #1E
Lab ID: 0012084-01
Matrix: AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ANIONS BY 300.0		**E300**				Analyst: **SDU**
Chloride	4.8	0.10		mg/L	1	12/12/00
Fluoride	0.40	0.10		mg/L	1	12/12/00
Nitrogen, Nitrate (As N)	4.2	0.10		mg/L	1	12/12/00
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	12/12/00
Phosphorus, Dissolved Orthophosphate (As P)	ND	0.50		mg/L	1	12/12/00
Sulfate	290	10		mg/L	20	12/21/00
VOLATILES BY 8260B		**SW8260B**				Analyst: **HSB**
Benzene	ND	1.0		µg/L	1	12/19/00
Bromobenzene	ND	1.0		µg/L	1	12/19/00
Bromodichloromethane	ND	1.0		µg/L	1	12/19/00
Bromoform	ND	1.0		µg/L	1	12/19/00
Bromomethane	ND	1.0		µg/L	1	12/19/00
Carbon Tetrachloride	ND	1.0		µg/L	1	12/19/00
Chlorobenzene	ND	1.0		µg/L	1	12/19/00
Chloroethane	ND	2.0		µg/L	1	12/19/00
Chloroform	ND	1.0		µg/L	1	12/19/00
Chloromethane	ND	1.0		µg/L	1	12/19/00
2-Chlorotoluene	ND	1.0		µg/L	1	12/19/00
4-Chlorotoluene	ND	1.0		µg/L	1	12/19/00
cis-1,2-DCE	ND	1.0		µg/L	1	12/19/00
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/19/00
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/19/00
Dibromochloromethane	ND	1.0		µg/L	1	12/19/00
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/19/00
Dibromomethane	ND	2.0		µg/L	1	12/19/00
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/19/00
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/19/00
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/19/00
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/19/00
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/19/00
1,1-Dichloroethane	ND	1.0		µg/L	1	12/19/00
1,1-Dichloroethene	ND	1.0		µg/L	1	12/19/00
1,2-Dichloropropane	ND	1.0		µg/L	1	12/19/00
1,3-Dichloropropane	ND	1.0		µg/L	1	12/19/00
2,2-Dichloropropane	ND	1.0		µg/L	1	12/19/00
1,1-Dichloropropene	ND	1.0		µg/L	1	12/19/00
Ethylbenzene	ND	1.0		µg/L	1	12/19/00
Hexachlorobutadiene	ND	1.0		µg/L	1	12/19/00
Isopropylbenzene	ND	1.0		µg/L	1	12/19/00

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *03-Jan-01*

CLIENT: Blagg Engineering
Client Sample ID: MW-1M
Lab Order: 0012084
Collection Date: 12/11/00 1:00:00 PM
Project: Nancy Hartman #1E
Lab ID: 0012084-01
Matrix: AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
4-Isopropyltoluene	ND	1.0		µg/L	1	12/19/00
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/19/00
Methylene Chloride	ND	3.0		µg/L	1	12/19/00
n-Butylbenzene	ND	1.0		µg/L	1	12/19/00
1-Methylnaphthalene	ND	2.0		µg/L	1	12/19/00
2-Methylnaphthalene	ND	2.0		µg/L	1	12/19/00
n-Propylbenzene	ND	1.0		µg/L	1	12/19/00
Naphthalene	ND	2.0		µg/L	1	12/19/00
sec-Butylbenzene	ND	1.0		µg/L	1	12/19/00
Styrene	ND	1.0		µg/L	1	12/19/00
tert-Butylbenzene	ND	1.0		µg/L	1	12/19/00
Tetrachloroethene	ND	1.0		µg/L	1	12/19/00
Toluene	ND	1.0		µg/L	1	12/19/00
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/19/00
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	12/19/00
trans-1,2-DCE	ND	1.0		µg/L	1	12/19/00
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/19/00
Trichloroethene	ND	1.0		µg/L	1	12/19/00
Trichlorofluoromethane	ND	1.0		µg/L	1	12/19/00
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/19/00
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/19/00
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/19/00
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/19/00
Vinyl chloride	ND	2.0		µg/L	1	12/19/00
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/19/00
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/19/00
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/19/00
Xylenes, Total	ND	1.0		µg/L	1	12/19/00
Surr: 1,2-Dichloroethane-d4	90.1	65-114		%REC	1	12/19/00
Surr: 4-Bromofluorobenzene	104	74-122		%REC	1	12/19/00
Surr: Dibromofluoromethane	86.0	65-113		%REC	1	12/19/00
Surr: Toluene-d8	92.6	60-123		%REC	1	12/19/00

Qualifiers:

ND - Not Detected at the Reporting Limit
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* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *03-Jan-01*

CLIENT: Blagg Engineering
Lab Order: 0012084
Project: Nancy Hartman #1E
Lab ID: 0012084-02

Client Sample ID: MW#2 M
Collection Date: 12/11/00 2:00:00 PM
Matrix: AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES BY 8260B		**SW8260B**				Analyst: **HSB**
Benzene	11000	1000		µg/L	1000	12/20/00
Bromobenzene	ND	50		µg/L	50	12/19/00
Bromodichloromethane	ND	50		µg/L	50	12/19/00
Bromoform	ND	50		µg/L	50	12/19/00
Bromomethane	ND	50		µg/L	50	12/19/00
Carbon Tetrachloride	ND	50		µg/L	50	12/19/00
Chlorobenzene	ND	50		µg/L	50	12/19/00
Chloroethane	ND	100		µg/L	50	12/19/00
Chloroform	ND	50		µg/L	50	12/19/00
Chloromethane	ND	50		µg/L	50	12/19/00
2-Chlorotoluene	ND	50		µg/L	50	12/19/00
4-Chlorotoluene	ND	50		µg/L	50	12/19/00
cis-1,2-DCE	ND	50		µg/L	50	12/19/00
cis-1,3-Dichloropropene	ND	50		µg/L	50	12/19/00
1,2-Dibromo-3-chloropropane	ND	100		µg/L	50	12/19/00
Dibromochloromethane	ND	50		µg/L	50	12/19/00
1,2-Dibromoethane (EDB)	ND	50		µg/L	50	12/19/00
Dibromomethane	ND	100		µg/L	50	12/19/00
1,2-Dichlorobenzene	ND	50		µg/L	50	12/19/00
1,3-Dichlorobenzene	ND	50		µg/L	50	12/19/00
1,4-Dichlorobenzene	ND	50		µg/L	50	12/19/00
Dichlorodifluoromethane	ND	50		µg/L	50	12/19/00
1,2-Dichloroethane (EDC)	ND	50		µg/L	50	12/19/00
1,1-Dichloroethane	ND	50		µg/L	50	12/19/00
1,1-Dichloroethene	ND	50		µg/L	50	12/19/00
1,2-Dichloropropane	ND	50		µg/L	50	12/19/00
1,3-Dichloropropane	ND	50		µg/L	50	12/19/00
2,2-Dichloropropane	ND	50		µg/L	50	12/19/00
1,1-Dichloropropene	ND	50		µg/L	50	12/19/00
Ethylbenzene	910	50		µg/L	50	12/19/00
Hexachlorobutadiene	ND	50		µg/L	50	12/19/00
Isopropylbenzene	63	50		µg/L	50	12/19/00
4-Isopropyltoluene	ND	50		µg/L	50	12/19/00
Methyl tert-butyl ether (MTBE)	ND	50		µg/L	50	12/19/00
Methylene Chloride	ND	150		µg/L	50	12/19/00
n-Butylbenzene	ND	50		µg/L	50	12/19/00
1-Methylnaphthalene	ND	100		µg/L	50	12/19/00
2-Methylnaphthalene	ND	100		µg/L	50	12/19/00
n-Propylbenzene	66	50		µg/L	50	12/19/00
Naphthalene	ND	100		µg/L	50	12/19/00
sec-Butylbenzene	ND	50		µg/L	50	12/19/00

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *03-Jan-01*

CLIENT: Blagg Engineering
Lab Order: 0012084
Project: Nancy Hartman #1E
Lab ID: 0012084-02

Client Sample ID: MW#2 M
Collection Date: 12/11/00 2:00:00 PM
Matrix: AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
Styrene	ND	50		µg/L	50	12/19/00
tert-Butylbenzene	ND	50		µg/L	50	12/19/00
Tetrachloroethene	ND	50		µg/L	50	12/19/00
Toluene	34000	1000		µg/L	1000	12/20/00
1,1,1,2-Tetrachloroethane	ND	50		µg/L	50	12/19/00
1,1,2,2-Tetrachloroethane	ND	50		µg/L	50	12/19/00
trans-1,2-DCE	ND	50		µg/L	50	12/19/00
trans-1,3-Dichloropropene	ND	50		µg/L	50	12/19/00
Trichloroethene	ND	50		µg/L	50	12/19/00
Trichlorofluoromethane	ND	50		µg/L	50	12/19/00
1,2,3-Trichlorobenzene	ND	50		µg/L	50	12/19/00
1,2,4-Trichlorobenzene	ND	50		µg/L	50	12/19/00
1,1,1-Trichloroethane	ND	50		µg/L	50	12/19/00
1,1,2-Trichloroethane	ND	50		µg/L	50	12/19/00
Vinyl chloride	ND	100		µg/L	50	12/19/00
1,2,3-Trichloropropane	ND	100		µg/L	50	12/19/00
1,2,4-Trimethylbenzene	580	50		µg/L	50	12/19/00
1,3,5-Trimethylbenzene	280	50		µg/L	50	12/19/00
Xylenes, Total	14000	1000		µg/L	1000	12/20/00
Surr: 1,2-Dichloroethane-d4	105	65-114		%REC	50	12/19/00
Surr: 4-Bromofluorobenzene	97.0	74-122		%REC	50	12/19/00
Surr: Dibromofluoromethane	94.9	65-113		%REC	50	12/19/00
Surr: Toluene-d8	102	60-123		%REC	50	12/19/00

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *03-Jan-01*

CLIENT: Blagg Engineering
Lab Order: 0012084
Project: Nancy Hartman #1E
Lab ID: 0012084-03

Client Sample ID: Trip Blank
Collection Date: 12/12/00
Matrix: AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES BY 8260B		**SW8260B**				Analyst: **HSB**
Benzene	ND	1.0		µg/L	1	12/19/00
Bromobenzene	ND	1.0		µg/L	1	12/19/00
Bromodichloromethane	ND	1.0		µg/L	1	12/19/00
Bromoform	ND	1.0		µg/L	1	12/19/00
Bromomethane	ND	1.0		µg/L	1	12/19/00
Carbon Tetrachloride	ND	1.0		µg/L	1	12/19/00
Chlorobenzene	ND	1.0		µg/L	1	12/19/00
Chloroethane	ND	2.0		µg/L	1	12/19/00
Chloroform	ND	1.0		µg/L	1	12/19/00
Chloromethane	ND	1.0		µg/L	1	12/19/00
2-Chlorotoluene	ND	1.0		µg/L	1	12/19/00
4-Chlorotoluene	ND	1.0		µg/L	1	12/19/00
cis-1,2-DCE	ND	1.0		µg/L	1	12/19/00
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/19/00
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/19/00
Dibromochloromethane	ND	1.0		µg/L	1	12/19/00
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/19/00
Dibromomethane	ND	2.0		µg/L	1	12/19/00
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/19/00
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/19/00
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/19/00
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/19/00
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/19/00
1,1-Dichloroethane	ND	1.0		µg/L	1	12/19/00
1,1-Dichloroethene	ND	1.0		µg/L	1	12/19/00
1,2-Dichloropropane	ND	1.0		µg/L	1	12/19/00
1,3-Dichloropropane	ND	1.0		µg/L	1	12/19/00
2,2-Dichloropropane	ND	1.0		µg/L	1	12/19/00
1,1-Dichloropropene	ND	1.0		µg/L	1	12/19/00
Ethylbenzene	ND	1.0		µg/L	1	12/19/00
Hexachlorobutadiene	ND	1.0		µg/L	1	12/19/00
Isopropylbenzene	ND	1.0		µg/L	1	12/19/00
4-Isopropyltoluene	ND	1.0		µg/L	1	12/19/00
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/19/00
Methylene Chloride	ND	3.0		µg/L	1	12/19/00
n-Butylbenzene	ND	1.0		µg/L	1	12/19/00
1-Methylnaphthalene	ND	2.0		µg/L	1	12/19/00
2-Methylnaphthalene	ND	2.0		µg/L	1	12/19/00
n-Propylbenzene	ND	1.0		µg/L	1	12/19/00
Naphthalene	ND	2.0		µg/L	1	12/19/00
sec-Butylbenzene	ND	1.0		µg/L	1	12/19/00

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *03-Jan-01*

CLIENT: Blagg Engineering
Lab Order: 0012084
Project: Nancy Hartman #1E
Lab ID: 0012084-03

Client Sample ID: Trip Blank
Collection Date: 12/12/00
Matrix: AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
Styrene	ND	1.0		µg/L	1	12/19/00
tert-Butylbenzene	ND	1.0		µg/L	1	12/19/00
Tetrachloroethene	ND	1.0		µg/L	1	12/19/00
Toluene	ND	1.0		µg/L	1	12/19/00
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/19/00
1,1,2,2-Tetrachloroethane	*ND*	*1.0*		*µg/L*	*1*	*12/19/00*
trans-1,2-DCE	ND	1.0		µg/L	1	12/19/00
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/19/00
Trichloroethene	ND	1.0		µg/L	1	12/19/00
Trichlorofluoromethane	ND	1.0		µg/L	1	12/19/00
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/19/00
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/19/00
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/19/00
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/19/00
Vinyl chloride	ND	2.0		µg/L	1	12/19/00
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/19/00
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/19/00
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/19/00
Xylenes, Total	ND	1.0		µg/L	1	12/19/00
Surr: 1,2-Dichloroethane-d4	82.9	65-114		%REC	1	12/19/00
Surr: 4-Bromofluorobenzene	101	74-122		%REC	1	12/19/00
Surr: Dibromofluoromethane	86.0	65-113		%REC	1	12/19/00
Surr: Toluene-d8	95.5	60-123		%REC	1	12/19/00

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
* - *Value exceeds Maximum Contaminant Level*
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *03-Jan-01*

CLIENT: Blagg Engineering
Work Order: 0012084
Project: Nancy Hartman #1E

QC SUMMARY REPORT
Method Blank

Sample ID: **MBLK** Batch ID: **R380** Test Code: **E300** Units: **mg/L** Analysis Date: **12/12/00** Prep Date:

Client ID: Run ID: **WC_001212A** SeqNo: **7340**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.10									
Fluoride	ND	0.10									
Nitrogen, Nitrate (As N)	ND	0.10									
Nitrogen, Nitrite (As N)	ND	0.50									
Phosphorus, Dissolved Orthophosphate	ND	0.50									
Sulfate	ND	0.50									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Blagg Engineering
Work Order: 0012084
Project: Nancy Hartman #1E

QC SUMMARY REPORT
Method Blank

Sample ID: **rb** Batch ID: **R327** Test Code: **SW8260B** Units: **µg/L** Analysis Date: **12/19/00** Prep Date:
Client ID: Run ID: **THOR_001219A** SeqNo: **6200**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1.0									
Bromobenzene	ND	1.0									
Bromodichloromethane	ND	1.0									
Bromoform	ND	1.0									
Bromomethane	ND	1.0									
Carbon Tetrachloride	ND	1.0									
Chlorobenzene	ND	1.0									
Chloroethane	ND	2.0									
Chloroform	ND	1.0									
Chloromethane	ND	1.0									
2-Chlorotoluene	ND	1.0									
4-Chlorotoluene	ND	1.0									
cis-1,2-DCE	ND	1.0									
cis-1,3-Dichloropropene	ND	1.0									
1,2-Dibromo-3-chloropropane	ND	2.0									
Dibromochloromethane	ND	1.0									
1,2-Dibromoethane (EDB)	ND	1.0									
Dibromomethane	ND	2.0									
1,2-Dichlorobenzene	ND	1.0									
1,3-Dichlorobenzene	ND	1.0									
1,4-Dichlorobenzene	ND	1.0									
Dichlorodifluoromethane	ND	1.0									
1,2-Dichloroethane (EDC)	ND	1.0									
1,1-Dichloroethane	ND	1.0									
1,1-Dichloroethene	ND	1.0									
1,2-Dichloropropane	ND	1.0									
1,3-Dichloropropane	ND	1.0									
2,2-Dichloropropane	ND	1.0									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Blagg Engineering
Work Order: 0012084
Project: Nancy Hartman #1E

QC SUMMARY REPORT
Method Blank

1,1-Dichloropropene	ND	1.0							
Ethylbenzene	ND	1.0							
Hexachlorobutadiene	ND	1.0							
Isopropylbenzene	ND	1.0							
4-Isopropyltoluene	ND	1.0							
Methyl tert-butyl ether (MTBE)	ND	1.0							
Methylene Chloride	ND	3.0							
n-Butylbenzene	ND	1.0							
1-Methylnaphthalene	0.876	2.0							J
2-Methylnaphthalene	ND	2.0							
n-Propylbenzene	ND	1.0							
Naphthalene	ND	2.0							
sec-Butylbenzene	ND	1.0							
Styrene	ND	1.0							
tert-Butylbenzene	ND	1.0							
Tetrachloroethene	ND	1.0							
Toluene	ND	1.0							
1,1,1,2-Tetrachloroethane	ND	1.0							
1,1,2,2-Tetrachloroethane	ND	1.0							
trans-1,2-DCE	ND	1.0							
trans-1,3-Dichloropropene	ND	1.0							
Trichloroethene	ND	1.0							
Trichlorofluoromethane	ND	1.0							
1,2,3-Trichlorobenzene	ND	1.0							
1,2,4-Trichlorobenzene	ND	1.0							
1,1,1-Trichloroethane	ND	1.0							
1,1,2-Trichloroethane	ND	1.0							
Vinyl chloride	ND	2.0							
1,2,3-Trichloropropane	ND	2.0							
1,2,4-Trimethylbenzene	ND	1.0							
1,3,5-Trimethylbenzene	ND	1.0							
Xylenes, Total	ND	1.0							
Surr: 1,2-Dichloroethane-d4	8.26	0	10	0	82.6	65	114	0	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Blagg Engineering
Work Order: 0012084
Project: Nancy Hartman #1E

QC SUMMARY REPORT
Method Blank

Surr: 4-Bromofluorobenzene	10.54	0	10	0	105	74	122	0
Surr: Dibromofluoromethane	8.55	0	10	0	85.5	65	113	0
Surr: Toluene-d8	9.134	0	10	0	91.3	60	123	0

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: *03-Jan-01*

CLIENT: Blagg Engineering
Work Order: 0012084
Project: Nancy Hartman #1E

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **LCS** Batch ID: **R380** Test Code: **E300** Units: **mg/L** Analysis Date: **12/12/00** Prep Date:
Client ID: Run ID: **WC_001212A** SeqNo: **7341**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	5.441	0.10	6	0	90.7	85	115	0			
Fluoride	0.565	0.10	0.6	0	94.2	85	115	0			
Nitrogen, Nitrate (As N)	2.95	0.10	3	0	98.3	85	115	0			
Nitrogen, Nitrite (As N)	1.118	0.50	1.2	0	93.2	85	115	0			
Phosphorus, Dissolved Orthophosphate	5.607	0.50	6	0	93.5	85	115	0			
Sulfate	11.14	0.50	12	0	92.8	85	115	0			

Sample ID: **LCSD** Batch ID: **R380** Test Code: **E300** Units: **mg/L** Analysis Date: **12/12/00** Prep Date:
Client ID: Run ID: **WC_001212A** SeqNo: **7342**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	5.338	0.10	6	0	89.0	85	115	5.441	1.91	15	
Fluoride	0.555	0.10	0.6	0	92.5	85	115	0.565	1.79	15	
Nitrogen, Nitrate (As N)	2.901	0.10	3	0	96.7	85	115	2.95	1.67	15	
Nitrogen, Nitrite (As N)	1.101	0.50	1.2	0	91.8	85	115	1.118	1.53	15	
Phosphorus, Dissolved Orthophosphate	5.535	0.50	6	0	92.3	85	115	5.607	1.29	15	
Sulfate	10.99	0.50	12	0	91.6	85	115	11.14	1.30	15	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: *03-Jan-01*

CLIENT: Blagg Engineering
Work Order: 0012084
Project: Nancy Hartman #1E

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **bs 40 ng** Batch ID: **R327** Test Code: **SW8260B** Units: **µg/L** Analysis Date: **12/19/00** Prep Date:
Client ID: Run ID: **THOR_001219A** SeqNo: **6201**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	9.064	1.0	8	0	113	74	119	0			
Chlorobenzene	8.264	1.0	8	0	103	72	123	0			
1,1-Dichloroethene	9.118	1.0	8	0	114	71	123	0			
Toluene	8.67	1.0	8	0	108	73	123	0			
Trichloroethene	8.926	1.0	8	0	112	69	130	0			

Sample ID: **40 ng mid** Batch ID: **R327** Test Code: **SW8260B** Units: **µg/L** Analysis Date: **12/19/00** Prep Date:
Client ID: Run ID: **THOR_001219A** SeqNo: **6306**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	9.116	1.0	8	0	114	74	119	9.064	0.572	21	
Chlorobenzene	8.758	1.0	8	0	109	72	123	8.264	5.80	22	
1,1-Dichloroethene	8.72	1.0	8	0	109	71	123	9.118	4.46	20	
Toluene	8.828	1.0	8	0	110	73	123	8.67	1.81	23	
Trichloroethene	8.3	1.0	8	0	104	69	130	8.926	7.27	23	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

SVL ANALYTICAL, INC.
One Government Gulch ■ P.O. Box 929 ■ Kellogg, Idaho 83837-0929 ■ Phone: (208)784-1258 ■ Fax: (208)783-0891

REPORT OF ANALYTICAL RESULTS

CLIENT : HALL ENVIRONMENTAL
SVL JOB No. : 96428
SVL SAMPLE No.: 251492

CLIENT SAMPLE ID: 0012084-01C mw #1M
Sample Collected: 12/11/00 1:00
Sample Receipt : 12/14/00
Date of Report : 12/20/00
Matrix: WATER

Determination	Result	Units	Dilution	Method	Test Date	Reference
Calcium	329	mg/L	1	6010B	12/19/00	2
Potassium	23.6	mg/L	1	6010B	12/19/00	2
Magnesium	43.9	mg/L	1	6010B	12/19/00	2
Sodium	57.0	mg/L	1	6010B	12/19/00	2
Silver	<0.005	mg/L	1	6010B	12/19/00	2
Aluminum	183	mg/L	1	6010B	12/19/00	2
Arsenic	0.04	mg/L	1	6010B	12/19/00	2
Boron	0.04	mg/L	1	6010B	12/19/00	2
Barium	1.37	mg/L	1	6010B	12/19/00	2
Cadmium	0.002	mg/L	1	6010B	12/19/00	2
Cobalt	0.057	mg/L	1	6010B	12/19/00	2
Chromium	0.111	mg/L	1	6010B	12/19/00	2
Copper	0.157	mg/L	1	6010B	12/19/00	2
Iron	170	mg/L	1	6010B	12/19/00	2
Mercury	<0.0002	mg/L	1	7471	12/19/00	2
Manganese	3.89	mg/L	1	6010B	12/19/00	2
Molybdenum	0.010	mg/L	1	6010B	12/19/00	2
Nickel	0.093	mg/L	1	6010B	12/19/00	2
Lead	0.092	mg/L	1	6010B	12/19/00	2
Selenium	<0.01	mg/L	1	6010B	12/19/00	2
Zinc	0.393	mg/L	1	6010B	12/19/00	2

REFERENCES: 1) "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-20; 2) "Test Methods for Evaluating Solid Wastes, 3rd Edition", SW 846, 1994; 3) "Standard Methods for the Examination of Water and Wastewater", 18th ED. 1992; 4) ASTM Method; 5) 40 CFR, Part 261

Reviewed By: Blaine Johnson Date 12/20/00
12/20/00 15:59

SVL ANALYTICAL, INC. Quality Control Report

Part I Prep Blank and Laboratory Control Sample

Client :HALL ENVIRONMENTAL SVL JOB No. :96428

Analyte	Method	Matrix	Units	Prep Blank	True—LCS—Found		LCS %R	Analysis Date
Silver	6010B	WATER	mg/L	<0.005	1.00	0.945	94.5	12/19/00
Aluminum	6010B	WATER	mg/L	<0.02	1.00	0.92	92.0	12/19/00
Arsenic	6010B	WATER	mg/L	<0.01	1.00	0.97	97.0	12/19/00
Boron	6010B	WATER	mg/L	<0.04	1.00	0.94	94.0	12/19/00
Barium	6010B	WATER	mg/L	<0.002	1.00	0.952	95.2	12/19/00
Calcium	6010B	WATER	mg/L	<0.04	20.0	20.0	100.0	12/19/00
Cadmium	6010B	WATER	mg/L	<0.002	1.00	0.978	97.8	12/19/00
Cobalt	6010B	WATER	mg/L	<0.006	1.00	0.945	94.5	12/19/00
Chromium	6010B	WATER	mg/L	<0.006	1.00	0.968	96.8	12/19/00
Copper	6010B	WATER	mg/L	<0.003	1.00	0.972	97.2	12/19/00
Iron	6010B	WATER	mg/L	<0.02	10.0	9.77	97.7	12/19/00
Potassium	6010B	WATER	mg/L	<1.0	30.0	28.0	93.3	12/19/00
Magnesium	6010B	WATER	mg/L	<0.04	20.0	18.9	94.5	12/19/00
Manganese	6010B	WATER	mg/L	<0.002	1.00	0.928	92.8	12/19/00
Molybdenum	6010B	WATER	mg/L	<0.008	1.00	0.945	94.5	12/19/00
Sodium	6010B	WATER	mg/L	<0.1	20.0	19.2	96.0	12/19/00
Nickel	6010B	WATER	mg/L	<0.005	1.00	0.934	93.4	12/19/00
Lead	6010B	WATER	mg/L	<0.005	1.00	0.964	96.4	12/19/00
Selenium	6010B	WATER	mg/L	<0.01	1.00	0.98	98.0	12/19/00
Zinc	6010B	WATER	mg/L	<0.005	1.00	0.980	98.0	12/19/00
Mercury	7471	WATER	mg/L	<0.0002	0.0050	0.0051	102.0	12/19/00

LEGEND:

LCS = Laboratory Control Sample LCS %R = LCS Percent Recovery N/A = Not Applicable

SVL ANALYTICAL, INC. Quality Control Report

Part II Duplicate and Spike Analysis

Client :HALL ENVIRONMENTAL SVL JOB No :96428

Test	Method	Matrix	QC SAMPLE ID Units	QC SAMPLE ID Result	Duplicate or MSD Found	Duplicate or MSD RPD%	Matrix Spike Result	Matrix Spike SPK ADD		Matrix Spike %R	Test Date
Ag	6010B	WATER	1 mg/L	<0.005	<0.005	UDL	0.978	1.00		97.8	12/19/00
Al	6010B	WATER	1 mg/L	183	179	2.2	220	1.00		R >4S	12/19/00
As	6010B	WATER	1 mg/L	0.04	0.04	0.0	0.99	1.00		95.0	12/19/00
B	6010B	WATER	1 mg/L	0.04	<0.04	200.0	0.95	1.00		91.0	12/19/00
Ba	6010B	WATER	1 mg/L	1.37	1.32	3.7	2.16	1.00		79.0	12/19/00
Ca	6010B	WATER	1 mg/L	329	326	0.9	338	20.0		R >4S	12/19/00
Cd	6010B	WATER	1 mg/L	0.002	<0.002	200.0	0.921	1.00		91.9	12/19/00
Co	6010B	WATER	1 mg/L	0.057	0.053	7.3	0.954	1.00		89.7	12/19/00
Cr	6010B	WATER	1 mg/L	0.111	0.105	5.6	1.05	1.00		93.9	12/19/00
Cu	6010B	WATER	1 mg/L	0.157	0.152	3.2	1.17	1.00		101.3	12/19/00
Fe	6010B	WATER	1 mg/L	170	163	4.2	173	10.0		R >4S	12/19/00
K	6010B	WATER	1 mg/L	23.6	22.7	3.9	53.9	30.0		101.0	12/19/00
Mg	6010B	WATER	1 mg/L	43.9	42.4	3.5	62.6	20.0		93.5	12/19/00
Mn	6010B	WATER	1 mg/L	3.89	3.86	0.8	4.73	1.00	A	84.0	12/19/00
Mo	6010B	WATER	1 mg/L	0.010	<0.008	200.0	0.843	1.00		83.3	12/19/00
Na	6010B	WATER	1 mg/L	57.0	57.4	0.7	77.2	20.0		101.0	12/19/00
Ni	6010B	WATER	1 mg/L	0.093	0.090	3.3	1.05	1.00		95.7	12/19/00
Pb	6010B	WATER	1 mg/L	0.092	0.086	6.7	0.991	1.00		89.9	12/19/00
Se	6010B	WATER	1 mg/L	<0.01	<0.01	UDL	0.96	1.00		96.0	12/19/00
Sn	6010B	WATER	1 mg/L	0.393	0.371	5.8	1.26	1.00		86.7	12/19/00
Hg	7471	WATER	1 mg/L	<0.0002	<0.0002	UDL	0.0012	0.0010		120.0	12/19/00

LEGEND:

RPD% = (|SAM - DUP|/((SAM + DUP)/2) * 100) UDL = Both SAM & DUP not detected.

RPD% = (|SPK - MSD|/((SPK + MSD)/2) * 100) M in Duplicate/MSD column indicates MSD.

SPIKE ADD column, A = Post Digest Spike; %R = Percent Recovery N/A = Not Analyzed; R > 4S = Result more than 4X the Spike Added

QC Sample 1: SVL SAM No.: 251492 Client Sample ID: 0012084-01C

96428

Hall Environmental Analysis Labor

4901 Hawkins NE, Suite A
Albuquerque, New Mexico 87109-
(505) 345-3975

CHAIN-OF-CUSTODY RECORD

Subcontractor:

SVL
One Government Gulch

Kellogg, ID 83837

TEL: (800) 597-7144
FAX:

Acct #:

12-Dec-00

Sample ID	Matrix	Collection Date	Bottle Type	Requested Tests: Na, K, Ca, Mg [redacted]	See list [redacted]					
0012084-01C	Aqueous	2/11/2000 1:00:00 PM	500HDPEHNO3	1	1					

Comments: Please fax results by 12/27/00
Project Name: Nancy Hartman #1E

		Date/Time			Date/Time
Relinquished by:	Stephanie Ukhanov	12/12/00 1510	**Received by:**	[signature]	12/14 11:'00
Relinquished by:			**Received by:**		

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite A
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: BLAGG / MANANA GAS

Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: 505 632-1199

Fax #: 505 632-3903

Project Name: NANCY HARTMAN #1E

Project #:

Project Manager: JEFF BLAGG

Sampler: NELSON VELEZ

Samples Cold?: ☒ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume Containers	Preservative $HgCl_2$	Preservative HCl	Preservative HNO_3	HEAL No.
12/11/00	1300	WATER	MW #1M	~~4~~ 5		✓	-	3260 001284-1
12/11/00	1400	WATER	MW #2M	2		✓	-	3260 -2
12/11/00	-	DEIONIZED WATER	TRIP BLANK	2-40ml		~~✓~~	-	~~4~~ 5 ~~3260~~ -3

ANALYSIS REQUEST

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B MOD (Gas/Diesel)	TPH (Method 418.1)	Volatiles Full List (8021)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Cations (Na, K, Ca, Mg)	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260 (VOA)	8270 (Semi-VOA)	ICAP METALS see list	Air Bubbles or Headspace (Y or N)
									✓	✓		✓		✓	
												✓			
												✓			

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
12/11/00	1430	Nelson Velez	[signature] 12/12/00 0810
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: 1 OF MW #1M ANION/CATION SAMPLES CONTAINS H_2SO_4 PRESERVATIVE.

Hall Environmental Analysis Laboratory

March 12, 2001

Jeff Blagg
Blagg Engineering
110 North 4th St.
Bloomfield, NM 87413
TEL: (505) 632-1199
FAX (505) 632-3903

RE: Nancy Hartman #1E

Order No.: 0102108

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 6 samples on 2/20/01 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Detection limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Senior Project Manager
Nancy McDuffie, Assistant Laboratory Manager

Hall Environmental Analysis Laboratory

Date: *12-Mar-01*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #7M
Lab Order:	0102108	**Collection Date:**	2/19/01 10:40:00 AM
Project:	Nancy Hartman #1E		
Lab ID:	0102108-01	**Matrix:**	AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX BY EPA 8021B		**SW8021**				Analyst: **AFM**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	2/21/01 2:50:28 PM
Benzene	ND	0.50		µg/L	1	2/21/01 2:50:28 PM
Toluene	ND	0.50		µg/L	1	2/21/01 2:50:28 PM
Ethylbenzene	ND	0.50		µg/L	1	2/21/01 2:50:28 PM
1,2,4-Trimethylbenzene	ND	0.50		µg/L	1	2/21/01 2:50:28 PM
1,3,5-Trimethylbenzene	ND	0.50		µg/L	1	2/21/01 2:50:28 PM
Xylenes, Total	ND	0.50		µg/L	1	2/21/01 2:50:28 PM
Surr: 4-Bromofluorobenzene	103	74-118		%REC	1	2/21/01 2:50:28 PM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quanititation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *12-Mar-01*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #6M
Lab Order:	0102108	**Collection Date:**	2/19/01 11:35:00 AM
Project:	Nancy Hartman #1E		
Lab ID:	0102108-02	**Matrix:**	AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX BY EPA 8021B		**SW8021**				Analyst: **AFM**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	2/21/01 3:22:10 PM
Benzene	ND	0.50		µg/L	1	2/21/01 3:22:10 PM
Toluene	ND	0.50		µg/L	1	2/21/01 3:22:10 PM
Ethylbenzene	ND	0.50		µg/L	1	2/21/01 3:22:10 PM
1,2,4-Trimethylbenzene	ND	0.50		µg/L	1	2/21/01 3:22:10 PM
1,3,5-Trimethylbenzene	ND	0.50		µg/L	1	2/21/01 3:22:10 PM
Xylenes, Total	ND	0.50		µg/L	1	2/21/01 3:22:10 PM
Surr: 4-Bromofluorobenzene	102	74-118		%REC	1	2/21/01 3:22:10 PM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quanititation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *12-Mar-01*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #3M
Lab Order:	0102108	**Collection Date:**	2/19/01 12:10:00 PM
Project:	Nancy Hartman #1E		
Lab ID:	0102108-03	**Matrix:**	AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX BY EPA 8021B		**SW8021**				Analyst: **AFM**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	2/21/01 3:53:50 PM
Benzene	ND	0.50		µg/L	1	2/21/01 3:53:50 PM
Toluene	ND	0.50		µg/L	1	2/21/01 3:53:50 PM
Ethylbenzene	ND	0.50		µg/L	1	2/21/01 3:53:50 PM
1,2,4-Trimethylbenzene	ND	0.50		µg/L	1	2/21/01 3:53:50 PM
1,3,5-Trimethylbenzene	ND	0.50		µg/L	1	2/21/01 3:53:50 PM
Xylenes, Total	ND	0.50		µg/L	1	2/21/01 3:53:50 PM
Surr: 4-Bromofluorobenzene	103	74-118		%REC	1	2/21/01 3:53:50 PM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quanititation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *12-Mar-01*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #3
Lab Order:	0102108	**Collection Date:**	2/19/01 1:35:00 PM
Project:	Nancy Hartman #1E		
Lab ID:	0102108-04	**Matrix:**	AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX BY EPA 8021B		**SW8021**				Analyst: **AFM**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	2/21/01 4:25:37 PM
Benzene	ND	0.50		µg/L	1	2/21/01 4:25:37 PM
Toluene	ND	0.50		µg/L	1	2/21/01 4:25:37 PM
Ethylbenzene	ND	0.50		µg/L	1	2/21/01 4:25:37 PM
1,2,4-Trimethylbenzene	ND	0.50		µg/L	1	2/21/01 4:25:37 PM
1,3,5-Trimethylbenzene	ND	0.50		µg/L	1	2/21/01 4:25:37 PM
Xylenes, Total	ND	0.50		µg/L	1	2/21/01 4:25:37 PM
Surr: 4-Bromofluorobenzene	100	74-118		%REC	1	2/21/01 4:25:37 PM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quanititation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *12-Mar-01*

CLIENT: Blagg Engineering
Lab Order: 0102108
Project: Nancy Hartman #1E
Lab ID: 0102108-05

Client Sample ID: MW #2
Collection Date: 2/19/01 2:15:00 PM
Matrix: AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX BY EPA 8021B		**SW8021**				Analyst: **AFM**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	2/21/01 4:57:30 PM
Benzene	220	5.0		µg/L	10	2/22/01 2:09:35 PM
Toluene	ND	0.50		µg/L	1	2/21/01 4:57:30 PM
Ethylbenzene	ND	0.50		µg/L	1	2/21/01 4:57:30 PM
1,2,4-Trimethylbenzene	*ND*	*0.50*		*µg/L*	*1*	*2/21/01 4:57:30 PM*
1,3,5-Trimethylbenzene	ND	0.50		µg/L	1	2/21/01 4:57:30 PM
Xylenes, Total	0.56	0.50		µg/L	1	2/21/01 4:57:30 PM
Surr: 4-Bromofluorobenzene	102	74-118		%REC	1	2/21/01 4:57:30 PM
PAHS BY 8310		**SW8310**				Analyst: **IC**
Naphthalene	ND	2.5		µg/L	1	2/28/01
1-Methylnaphthalene	ND	2.5		µg/L	1	2/28/01
2-Methylnaphthalene	ND	2.5		µg/L	1	2/28/01
Acenaphthylene	ND	2.5		µg/L	1	2/28/01
Acenaphthene	ND	2.5		µg/L	1	2/28/01
Fluorene	ND	0.80		µg/L	1	2/28/01
Phenanthrene	ND	0.60		µg/L	1	2/28/01
Anthracene	ND	0.60		µg/L	1	2/28/01
Fluoranthene	ND	0.30		µg/L	1	2/28/01
Pyrene	ND	0.30		µg/L	1	2/28/01
Benz(a)anthracene	ND	0.020		µg/L	1	2/28/01
Chrysene	ND	0.20		µg/L	1	2/28/01
Benzo(b)fluoranthene	ND	0.050		µg/L	1	2/28/01
Benzo(k)fluoranthene	ND	0.020		µg/L	1	2/28/01
Benzo(a)pyrene	ND	0.020		µg/L	1	2/28/01
Dibenz(a,h)anthracene	ND	0.040		µg/L	1	2/28/01
Benzo(g,h,i)perylene	*ND*	*0.030*		*µg/L*	*1*	*2/28/01*
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	2/28/01
Surr: Benzo(e)pyrene	74.9	77-104	S	%REC	1	2/28/01

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *12-Mar-01*

CLIENT: Blagg Engineering
Lab Order: 0102108
Project: Nancy Hartman #1E
Lab ID: 0102108-06

Client Sample ID: MW #2M
Collection Date: 2/19/01 3:15:00 PM
Matrix: AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX BY EPA 8021B		**SW8021**				*Analyst:* ***AFM***
Methyl tert-butyl ether (MTBE)	ND	100		µg/L	40	2/21/01 6:01:01 PM
Benzene	3900	250		µg/L	500	2/22/01 2:41:21 PM
Toluene	30000	250		µg/L	500	2/22/01 2:41:21 PM
Ethylbenzene	1200	20		µg/L	40	2/21/01 6:01:01 PM
1,2,4-Trimethylbenzene	570	20		µg/L	40	2/21/01 6:01:01 PM
1,3,5-Trimethylbenzene	280	20		µg/L	40	2/21/01 6:01:01 PM
Xylenes, Total	13000	250		µg/L	500	2/22/01 2:41:21 PM
Surr: 4-Bromofluorobenzene	103	74-118		%REC	40	2/21/01 6:01:01 PM
PAHS BY 8310		**SW8310**				Analyst: **IC**
Naphthalene	50	2.5		µg/L	1	3/1/01
1-Methylnaphthalene	7.6	2.5		µg/L	1	3/1/01
2-Methylnaphthalene	19	2.5		µg/L	1	3/1/01
Acenaphthylene	ND	2.5		µg/L	1	3/1/01
Acenaphthene	ND	2.5		µg/L	1	3/1/01
Fluorene	ND	0.80		µg/L	1	3/1/01
Phenanthrene	ND	0.60		µg/L	1	3/1/01
Anthracene	ND	0.60		µg/L	1	3/1/01
Fluoranthene	ND	0.30		µg/L	1	3/1/01
Pyrene	ND	0.30		µg/L	1	3/1/01
Benz(a)anthracene	ND	0.020		µg/L	1	3/1/01
Chrysene	ND	0.20		µg/L	1	3/1/01
Benzo(b)fluoranthene	ND	0.050		µg/L	1	3/1/01
Benzo(k)fluoranthene	ND	0.020		µg/L	1	3/1/01
Benzo(a)pyrene	ND	0.020		µg/L	1	3/1/01
Dibenz(a,h)anthracene	ND	0.040		µg/L	1	3/1/01
Benzo(g,h,i)perylene	ND	0.030		µg/L	1	3/1/01
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	3/1/01
Surr: Benzo(e)pyrene	85.4	77-104		%REC	1	3/1/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

SVL ANALYTICAL, INC.
One Government Gulch ■ P.O. Box 929 ■ Kellogg, Idaho 83837-0929 ■ Phone: (208)784-1258 ■ Fax: (208)783-0891

REPORT OF ANALYTICAL RESULTS

CLIENT : HALL ENVIRONMENTAL
SVL JOB No. : 97000
SVL SAMPLE No.: 256386

CLIENT SAMPLE ID: MW#2
Sample Collected: 2/19/01 2:15
Sample Receipt : 2/22/01
Date of Report : 3/07/01
Matrix: WATER

Determination	Result	Units	Dilution	Method	Test Date	Reference
Barium	0.090	mg/L	1	200.7	3/06/01	1
Iron	0.22	mg/L	1	200.7	3/06/01	1
Manganese	0.186	mg/L	1	200.7	3/06/01	1

REFERENCES: 1) "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-20; 2) "Test Methods for Evaluating Solid Wastes, 3rd Edition", SW 846, 1994; 3) "Standard Methods for the Examination of Water and Wastewater", 18th ED. 1992; 4) ASTM Method; 5) 40 CFR, Part 261

Reviewed By: Blake Johnson Date 3/7/01
3/07/01 10:09

SVL ANALYTICAL, INC.
One Government Gulch ■ P.O. Box 929 ■ Kellogg, Idaho 83837-0929 ■ Phone: (208)784-1258 ■ Fax: (208)783-0891

REPORT OF ANALYTICAL RESULTS

CLIENT : HALL ENVIRONMENTAL
SVL JOB No. : 97000
SVL SAMPLE No.: 256387

CLIENT SAMPLE ID: MW#2M
Sample Collected: 2/19/01 3:15
Sample Receipt : 2/22/01
Date of Report : 3/07/01
Matrix: WATER

Determination	Result	Units	Dilution	Method	Test Date	Reference
Silver	<0.005	mg/L	1	200.7	3/06/01	1
Aluminum	56.1	mg/L	1	200.7	3/06/01	1
Arsenic	<0.01	mg/L	1	200.7	3/06/01	1
Boron	<0.04	mg/L	1	200.7	3/06/01	1
Barium	0.557	mg/L	1	200.7	3/06/01	1
Cadmium	<0.002	mg/L	1	200.7	3/06/01	1
Cobalt	0.014	mg/L	1	200.7	3/06/01	1
Chromium	0.031	mg/L	1	200.7	3/06/01	1
Copper	0.039	mg/L	1	200.7	3/06/01	1
Iron	45.3	mg/L	1	200.7	3/06/01	1
Mercury	0.0004	mg/L	1	245.1	3/05/01	1
Manganese	6.87	mg/L	1	200.7	3/06/01	1
Molybdenum	0.009	mg/L	1	200.7	3/06/01	1
Nickel	0.018	mg/L	1	200.7	3/06/01	1
Lead	0.032	mg/L	1	200.7	3/06/01	1
Selenium	<0.01	mg/L	1	200.7	3/06/01	1
Zinc	0.092	mg/L	1	200.7	3/06/01	1

REFERENCES: 1) "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-20; 2) "Test Methods for Evaluating Solid Wastes, 3rd Edition", SW 846, 1994; 3) "Standard Methods for the Examination of Water and Wastewater", 18th ED. 1992; 4) ASTM Method; 5) 40 CFR, Part 261

Reviewed By: Blake Johnson Date 3/7/01
3/07/01 12:17

SVL ANALYTICAL, INC. Quality Control Report

Part I Prep Blank and Laboratory Control Sample

Client :HALL ENVIRONMENTAL SVL JOB No. :97000

Analyte	Method	Matrix	Units	Prep Blank	True——LCS——Found		LCS %R	Analysis Date
Silver	200.7	WATER	mg/L	<0.005	1.00	0.999	99.9	3/06/01
Aluminum	200.7	WATER	mg/L	<0.02	1.00	1.00	100.0	3/06/01
Arsenic	200.7	WATER	mg/L	<0.01	1.00	1.00	100.0	3/06/01
Boron	200.7	WATER	mg/L	<0.04	1.00	1.03	103.0	3/06/01
Barium	200.7	WATER	mg/L	<0.002	1.00	0.997	99.7	3/06/01
Cadmium	200.7	WATER	mg/L	<0.002	1.00	1.00	100.0	3/06/01
Cobalt	200.7	WATER	mg/L	<0.006	1.00	1.01	101.0	3/06/01
Chromium	200.7	WATER	mg/L	<0.006	1.00	1.01	101.0	3/06/01
Copper	200.7	WATER	mg/L	<0.003	1.00	1.01	101.0	3/06/01
Iron	200.7	WATER	mg/L	<0.02	10.0	10.6	106.0	3/06/01
Manganese	200.7	WATER	mg/L	<0.002	1.00	1.03	103.0	3/06/01
Molybdenum	200.7	WATER	mg/L	<0.008	1.00	0.986	98.6	3/06/01
Nickel	200.7	WATER	mg/L	<0.005	1.00	0.984	98.4	3/06/01
Lead	200.7	WATER	mg/L	<0.005	1.00	0.971	97.1	3/06/01
Selenium	200.7	WATER	mg/L	<0.01	1.00	0.94	94.0	3/06/01
Zinc	200.7	WATER	mg/L	<0.005	1.00	1.00	100.0	3/06/01
Mercury	245.1	WATER	mg/L	<0.0002	0.0050	0.0048	96.0	3/05/01

LEGEND:

LCS = Laboratory Control Sample LCS %R = LCS Percent Recovery N/A = Not Applicable

SVL ANALYTICAL, INC. Quality Control Report

Part II Duplicate and Spike Analysis

Client :HALL ENVIRONMENTAL SVL JOB No :97000

Test	Method	Matrix	QC SAMPLE ID Units	Result	Duplicate or MSD Found	RPD%	Matrix Spike Result	SPK ADD	%R	Test Date
Ag	200.7	WATER	1 mg/L	<0.005	<0.005	UDL	1.05	1.00	105.0	3/06/01
l	200.7	WATER	1 mg/L	56.1	54.2	3.4	79.2	1.00	R >4S	3/06/01
As	200.7	WATER	1 mg/L	<0.01	<0.01	UDL	1.05	1.00	105.0	3/06/01
B	200.7	WATER	1 mg/L	<0.04	<0.04	UDL	1.06	1.00	106.0	3/06/01
a	200.7	WATER	1 mg/L	0.557	0.557	0.0	1.55	1.00	99.3	3/06/01
d	200.7	WATER	1 mg/L	<0.002	<0.002	UDL	0.995	1.00	99.5	3/06/01
Co	200.7	WATER	1 mg/L	0.014	0.014	0.0	1.02	1.00	100.6	3/06/01
r	200.7	WATER	1 mg/L	0.031	0.031	0.0	1.05	1.00	101.9	3/06/01
u	200.7	WATER	1 mg/L	0.039	0.037	5.3	1.10	1.00	106.1	3/06/01
Fe	200.7	WATER	1 mg/L	45.3	45.2	0.2	62.1	10.0	R >4S	3/06/01
Mn	200.7	WATER	1 mg/L	6.87	6.92	0.7	8.17	1.00	R >4S	3/06/01
o	200.7	WATER	1 mg/L	0.009	0.009	0.0	1.01	1.00	100.1	3/06/01
Ni	200.7	WATER	1 mg/L	0.018	0.016	11.8	1.05	1.00	103.2	3/06/01
Pb	200.7	WATER	1 mg/L	0.032	0.028	13.3	1.02	1.00	98.8	3/06/01
e	200.7	WATER	1 mg/L	<0.01	<0.01	UDL	0.99	1.00	99.0	3/06/01
n	200.7	WATER	1 mg/L	0.092	0.091	1.1	1.08	1.00	98.8	3/06/01
Hg	245.1	WATER	1 mg/L	0.0004	0.0008	66.7	0.0012	0.0010	40.0	3/05/01

LEGEND:

RPD% = (|SAM - DUP|/((SAM + DUP)/2) * 100) UDL = Both SAM & DUP not detected. *Result or *Found: Interference reqired dilution.

RPD% = (|SPK - MSD|/((SPK + MSD)/2) * 100) M in Duplicate/MSD column indicates MSD.

SPIKE ADD column, A = Post Digest Spike; %R = Percent Recovery N/A = Not Analyzed; R > 4S = Result more than 4X the Spike Added

QC Sample 1: SVL SAM No.: 256387 Client Sample ID: MW#2M

Hall Environmental Analysis Laboratory

Date: *12-Mar-01*

CLIENT: Blagg Engineering
Work Order: 0102108
Project: Nancy Hartman #1E

QC SUMMARY REPORT
Method Blank

Sample ID: **Reagent Blank 5m** Batch ID: **R698** Test Code: **SW8021** Units: **µg/L** Analysis Date: **2/21/01 8:50:06 AM** Prep Date:
Client ID: Run ID: **PIDFID_010221A** SeqNo: **14711**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.50									
Toluene	ND	0.50									
Ethylbenzene	ND	0.50									
1,3,5-Trimethylbenzene	ND	0.50									
Xylenes, Total	ND	0.50									

Sample ID: **Reagent Blank 5m** Batch ID: **R704** Test Code: **SW8021** Units: **µg/L** Analysis Date: **2/22/01 10:35:08 AM** Prep Date:
Client ID: Run ID: **PIDFID_010222A** SeqNo: **15095**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.50									
Toluene	ND	0.50									
Ethylbenzene	ND	0.50									
1,3,5-Trimethylbenzene	ND	0.50									
Xylenes, Total	ND	0.50									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Blagg Engineering
Work Order: 0102108
Project: Nancy Hartman #1E

QC SUMMARY REPORT
Method Blank

Sample ID: **MB-288** Batch ID: **288** Test Code: **SW8310** Units: **µg/L** Analysis Date: **2/24/01** Prep Date: **2/23/01**
Client ID: Run ID: **HPLC_010227B** SeqNo: **15842**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	2.5									
1-Methylnaphthalene	ND	2.5									
2-Methylnaphthalene	ND	2.5									
Acenaphthylene	ND	2.5									
Acenaphthene	ND	2.5									
Fluorene	ND	0.80									
Phenanthrene	ND	0.60									
Anthracene	ND	0.60									
Fluoranthene	ND	0.30									
Pyrene	ND	0.30									
Benz(a)anthracene	ND	0.020									
Chrysene	ND	0.20									
Benzo(b)fluoranthene	ND	0.050									
Benzo(k)fluoranthene	ND	0.020									
Benzo(a)pyrene	ND	0.020									
Dibenz(a,h)anthracene	ND	0.040									
Benzo(g,h,i)perylene	ND	0.030									
Indeno(1,2,3-cd)pyrene	ND	0.080									
Surr: Benzo(e)pyrene	988.7	0	1000	0	98.9	77	104	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: *12-Mar-01*

CLIENT: Blagg Engineering
Work Order: 0102108
Project: Nancy Hartman #1E

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **8021 bsd** Batch ID: **R698** Test Code: **SW8021** Units: **µg/L** Analysis Date: **2/21/01 11:15:24 PM** Prep Date:
Client ID: Run ID: **PIDFID_010221A** SeqNo: **15083**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.24	0.50	20	0	101	77	122	0			
Toluene	20.06	0.50	20	0	100	81	115	0			
Ethylbenzene	19.94	0.50	20	0	99.7	84	117	0			
1,3,5-Trimethylbenzene	18.94	0.50	20	0	94.7	85	115	0			
Xylenes, Total	61.29	0.50	60	0	102	84	116	0			

Sample ID: **btex std** Batch ID: **R698** Test Code: **SW8021** Units: **µg/L** Analysis Date: **2/21/01 11:47:04 PM** Prep Date:
Client ID: Run ID: **PIDFID_010221A** SeqNo: **15088**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.89	0.50	20	0	104	77	122	20.24	3.18	27	
Toluene	20.83	0.50	20	0	104	81	115	20.06	3.76	19	
Ethylbenzene	20.68	0.50	20	0	103	84	117	19.94	3.62	10	
1,3,5-Trimethylbenzene	20	0.50	20	0	100	85	115	18.94	5.49	10	
Xylenes, Total	63.72	0.50	60	0	106	84	116	61.29	3.90	13	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Blagg Engineering
Work Order: 0102108
Project: Nancy Hartman #1E

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **LCS-288** Batch ID: **288** Test Code: **SW8310** Units: **µg/L** Analysis Date: **2/27/01** Prep Date: **2/23/01**
Client ID: Run ID: **HPLC_010227B** SeqNo: **15843**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	23.1	2.5	40.4	0	57.2	44	79	0			
Acenaphthylene	24.98	2.5	40.4	0	61.8	48	88	0			
Acenaphthene	26.09	2.5	40.4	0	64.6	51	88	0			
Fluorene	2.595	0.80	4.1	0	63.3	55	92	0			
Phenanthrene	2.164	0.60	3.07	0	70.5	70	96	0			
Fluoranthene	1.665	0.30	1.92	0	86.7	76	101	0			
Pyrene	3.414	0.30	3.85	0	88.7	77	101	0			
Benzo(a)pyrene	0.28	0.020	0.253	0	111	67	127	0			
Benzo(g,h,i)perylene	0.575	0.030	0.553	0	104	80	112	0			

Sample ID: **LCSD-288** Batch ID: **288** Test Code: **SW8310** Units: **µg/L** Analysis Date: **2/27/01** Prep Date: **2/23/01**
Client ID: Run ID: **HPLC_010227B** SeqNo: **15844**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	19.61	2.5	40.4	0	48.5	44	79	23.1	16.3	35	
Acenaphthylene	19.61	2.5	40.4	0	48.5	48	88	24.98	24.1	36	
Acenaphthene	20.8	2.5	40.4	0	51.5	51	88	26.09	22.6	30	
Fluorene	2.315	0.80	4.1	0	56.5	55	92	2.595	11.4	30	
Phenanthrene	1.836	0.60	3.07	0	59.8	70	96	2.164	16.4	17	S
Fluoranthene	1.513	0.30	1.92	0	78.8	76	101	1.665	9.57	13	
Pyrene	3.139	0.30	3.85	0	81.5	77	101	3.414	8.39	13	
Benzo(a)pyrene	0.283	0.020	0.253	0	112	67	127	0.28	1.07	17	
Benzo(g,h,i)perylene	0.555	0.030	0.553	0	100	80	112	0.575	3.54	17	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite A
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: BLAGG ENGINEERING / MANCOS GAS

Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: (505) 632-1199

Fax #: (505) 632-3903

Project Name: NANCY HARTMAN #1E

Project #:

Project Manager: JEFF BLAGG

Sampler: NELSON VELEZ

Samples Cold?: ☒ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HCl	Preservative: HNO_3	HEAL No.
2/19/01	1040	WATER	MW #7M	2-40 ml		✓		0102108-1
2/19/01	1135	WATER	MW #6M	2-40 ml		✓		-2
2/19/01	1210	WATER	MW #3M	2-40 ml		✓		-3
2/19/01	1335	WATER	MW #3	2-40 ml		✓		-4
2/19/01	1415	WATER	MW #2	2-40 ml		✓		-5
2/19/01	1415	WATER	MW #2	1 L				-5
2/19/01	1415	WATER	MW #2	500 ml			✓	-5
2/19/01	1515	WATER	MW #2M	2-40 ml		✓		-6
2/19/01	1515	WATER	MW #2M	1 L				-6
2/19/01	1515	WATER	MW #2M	500 ml			✓	-6

ANALYSIS REQUEST

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B MOD (Gas/Diesel)	TPH (Method 418.1)	Volatiles Full List (8021)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Cations (Na, K, Ca, Mg)	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260 (VOA)	8270 (Semi-VOA)	METALS (SEE REMARKS)		Air Bubbles or Headspace (Y or N)
✓																
✓																
✓																
✓																
✓																
							✓									
														✓		
✓																
							✓									
														✓		

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
2/20/01	0800	Nelson Velez	2/20/01 1700
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: MW #2 METALS: BARIUM, IRON, MANGANESE ONLY.
MW #2M METALS: SEE ATTACHED LIST (17 TOTAL INCLUDING MERCURY (Hg).

Hall Environmental
Analysis Laboratory

May 30, 2001

Jeff Blagg
Blagg Engineering
110 North 4th St.
Bloomfield, NM 87413
TEL: (505) 632-1199
FAX (505) 632-3903

RE: Nancy Hartman #1E

Order No.: 0105147

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 6 samples on 5/22/01 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Detection limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Senior Project Manager
Nancy McDuffie, Assistant Laboratory Manager

Hall Environmental Analysis Laboratory

Date: *30-May-01*

CLIENT: Blagg Engineering
Project: Nancy Hartman #1E
Lab Order: 0105147

Lab ID: 0105147-01 **Collection Date:** 5/21/01 1:10:00 PM
Client Sample ID: MW-2 **Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX BY EPA 8021B		**SW8021**				Analyst: **JEB**
Benzene	ND	0.50		µg/L	1	5/24/01 4:27:34 PM
Toluene	ND	0.50		µg/L	1	5/24/01 4:27:34 PM
Ethylbenzene	ND	0.50		µg/L	1	5/24/01 4:27:34 PM
Xylenes, Total	ND	0.50		µg/L	1	5/24/01 4:27:34 PM
Surr: 4-Bromofluorobenzene	101	74-118		%REC	1	5/24/01 4:27:34 PM

Lab ID: 0105147-02 **Collection Date:** 5/21/01 1:35:00 PM
Client Sample ID: MW-3 **Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX BY EPA 8021B		**SW8021**				Analyst: **JEB**
Benzene	ND	0.50		µg/L	1	5/24/01 1:04:32 AM
Toluene	ND	0.50		µg/L	1	5/24/01 1:04:32 AM
Ethylbenzene	ND	0.50		µg/L	1	5/24/01 1:04:32 AM
Xylenes, Total	ND	0.50		µg/L	1	5/24/01 1:04:32 AM
Surr: 4-Bromofluorobenzene	101	74-118		%REC	1	5/24/01 1:04:32 AM

Lab ID: 0105147-03 **Collection Date:** 5/21/01 12:20:00 PM
Client Sample ID: MW-2M **Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX BY EPA 8021B		**SW8021**				Analyst: **JEB**
Benzene	ND	2.5		µg/L	5	5/24/01 4:58:45 PM
Toluene	96	2.5		µg/L	5	5/24/01 4:58:45 PM
Ethylbenzene	16	2.5		µg/L	5	5/24/01 4:58:45 PM
Xylenes, Total	280	2.5		µg/L	5	5/24/01 4:58:45 PM
Surr: 4-Bromofluorobenzene	108	74-118		%REC	5	5/24/01 4:58:45 PM

Lab ID: 0105147-04 **Collection Date:** 5/21/01 1:55:00 PM
Client Sample ID: MW-3M **Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX BY EPA 8021B		**SW8021**				Analyst: **JEB**
Benzene	ND	0.50		µg/L	1	5/24/01 2:04:37 AM
Toluene	ND	0.50		µg/L	1	5/24/01 2:04:37 AM
Ethylbenzene	ND	0.50		µg/L	1	5/24/01 2:04:37 AM
Xylenes, Total	ND	0.50		µg/L	1	5/24/01 2:04:37 AM
Surr: 4-Bromofluorobenzene	98.5	74-118		%REC	1	5/24/01 2:04:37 AM

Qualifiers:
ND - Not Detected at the Reporting Limit
J - *Analyte detected below quantitation limits*
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *30-May-01*

CLIENT: Blagg Engineering
Project: Nancy Hartman #1E

Lab Order: 0105147

Lab ID: 0105147-05
Collection Date: 5/21/01 12:50:00 PM
Client Sample ID: MW-6M
Matrix: AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX BY EPA 8021B		**SW8021**				Analyst: **JEB**
Benzene	2.0	0.50		µg/L	1	5/24/01 2:34:35 AM
Toluene	ND	0.50		µg/L	1	5/24/01 2:34:35 AM
Ethylbenzene	ND	0.50		µg/L	1	5/24/01 2:34:35 AM
Xylenes, Total	ND	0.50		µg/L	1	5/24/01 2:34:35 AM
Surr: 4-Bromofluorobenzene	103	74-118		%REC	1	5/24/01 2:34:35 AM

Lab ID: 0105147-06
Collection Date: 5/21/01 1:00:00 PM
Client Sample ID: MW-7M
Matrix: AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX BY EPA 8021B		**SW8021**				Analyst: **JEB**
Benzene	ND	0.50		µg/L	1	5/24/01 3:04:37 AM
Toluene	ND	0.50		µg/L	1	5/24/01 3:04:37 AM
Ethylbenzene	ND	0.50		µg/L	1	5/24/01 3:04:37 AM
Xylenes, Total	ND	0.50		µg/L	1	5/24/01 3:04:37 AM
Surr: 4-Bromofluorobenzene	97.8	74-118		%REC	1	5/24/01 3:04:37 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *30-May-01*

CLIENT: Blagg Engineering
Work Order: 0105147
Project: Nancy Hartman #1E

QC SUMMARY REPORT
Method Blank

Sample ID: **Reagent Blank 5m** Batch ID: **R1234** Test Code: **SW8021** Units: **µg/L** Analysis Date: **5/23/01 9:21:24 AM** Prep Date:

Client ID: Run ID: **PIDHALL_010523A** SeqNo: **27287**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5									
Benzene	ND	0.50									
Toluene	ND	0.50									
Ethylbenzene	ND	0.50									
1,2,4-Trimethylbenzene	ND	0.50									
1,3,5-Trimethylbenzene	ND	0.50									
Xylenes, Total	ND	0.50									
Surr: 4-Bromofluorobenzene	18.61	0	20	0	93.1	74	118	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: *30-May-01*

CLIENT: Blagg Engineering
Work Order: *0105147*
Project: Nancy Hartman #1E

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **0105119-05a ms** Batch ID: **R1234** Test Code: **SW8021** Units: **µg/L** Analysis Date: **5/23/01 10:03:21 PM** Prep Date:
Client ID: Run ID: **PIDHALL_010523A** SeqNo: **27403**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.23	0.50	20	0	101	77	122	0			
Toluene	19.86	0.50	20	0	99.3	81	115	0			
Ethylbenzene	19.85	0.50	20	0	99.3	84	117	0			
Xylenes, Total	60.98	0.50	60	0	102	84	116	0			

Sample ID: **0105119-05a msd** Batch ID: **R1234** Test Code: **SW8021** Units: **µg/L** Analysis Date: **5/23/01 10:33:43 PM** Prep Date:
Client ID: Run ID: **PIDHALL_010523A** SeqNo: **27404**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.84	0.50	20	0	99.2	77	122	20.23	1.98	27	
Toluene	19.12	0.50	20	0	95.6	81	115	19.86	3.80	19	
Ethylbenzene	19.44	0.50	20	0	97.2	84	117	19.85	2.10	10	
Xylenes, Total	60.02	0.50	60	0	100	84	116	60.98	1.59	13	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
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www.hallenvironmental.com

Client: BLAGG ENGINEERING / MANANA GAS

Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: (505) 632-1199

Fax #: (505) 632-3903

Project Name: NANCY HARTMAN #1E

Project #:

Project Manager: JEFF BLAGG

Sampler: NELSON VELEZ

Samples Cold?: ☒ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HCl	Preservative:	HEAL No.
5/21/01	1310	WATER	MW # 2	2		✓		0105147-1
5/21/01	1335	WATER	MW # 3	2		✓		-2
5/21/01	1220	WATER	MW # 2M	2		✓		-3
5/21/01	~~1355~~ 1335 RU	WATER	MW # 3M	2		✓		-4
5/21/01	1250	WATER	MW # 6M	2		✓		-5
5/21/01	1300	WATER	MW # 7M	2		✓		-6

ANALYSIS REQUEST

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B MOD (Gas/Diesel)	TPH (Method 418.1)	Volatiles Full List (8021)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Cations (Na, K, Ca, Mg)	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260 (VOA)	8270 (Semi-VOA)			Air Bubbles or Headspace (Y or N)
✓																
✓																
✓																
✓																
✓																
✓																

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
5/21/01	0700	NELSON VELEZ	5/22/01 1707
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: BTEX (8021B) ONLY. PLEASE FAX RESULTS UPON COMPLETION.

Hall Environmental Analysis Laboratory

COVER LETTER

August 27, 2001

Jeff Blagg
Blagg Engineering
110 North 4th St.
Bloomfield, NM 87413
TEL: (505) 632-1199
FAX (505) 632-3903

RE: Nancy Hartman #1E

Order No.: 0108139

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 3 samples on 8/21/01 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Senior Project Manager
Nancy McDuffie, Assistant Laboratory Manager

Hall Environmental Analysis Laboratory

Date: *27-Aug-01*

CLIENT: Blagg Engineering
Project: Nancy Hartman #1E
Lab Order: 0108139

Lab ID: 0108139-01 **Collection Date:** 8/16/01 1:35:00 PM
Client Sample ID: MW-2M **Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX BY EPA 8021B		**SW8021**				Analyst: **BDH**
Benzene	ND	0.50		µg/L	1	8/23/01 10:54:29 PM
Toluene	54	0.50		µg/L	1	8/23/01 10:54:29 PM
Ethylbenzene	11	0.50		µg/L	1	8/23/01 10:54:29 PM
Xylenes, Total	330	0.50		µg/L	1	8/23/01 10:54:29 PM
Surr: 4-Bromofluorobenzene	99.3	74-118		%REC	1	8/23/01 10:54:29 PM

Lab ID: 0108139-02 **Collection Date:** 8/21/01 8:45:00 AM
Client Sample ID: MW-2 **Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX BY EPA 8021B		**SW8021**				Analyst: **BDH**
Benzene	ND	0.50		µg/L	1	8/24/01 12:03:03 AM
Toluene	ND	0.50		µg/L	1	8/24/01 12:03:03 AM
Ethylbenzene	ND	0.50		µg/L	1	8/24/01 12:03:03 AM
Xylenes, Total	ND	0.50		µg/L	1	8/24/01 12:03:03 AM
Surr: 4-Bromofluorobenzene	90.6	74-118		%REC	1	8/24/01 12:03:03 AM

Lab ID: 0108139-03 **Collection Date:** 8/21/01 9:20:00 AM
Client Sample ID: MW-6M **Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX BY EPA 8021B		**SW8021**				Analyst: **BDH**
Benzene	1.5	0.50		µg/L	1	8/24/01 1:43:48 AM
Toluene	ND	0.50		µg/L	1	8/24/01 1:43:48 AM
Ethylbenzene	ND	0.50		µg/L	1	8/24/01 1:43:48 AM
Xylenes, Total	ND	0.50		µg/L	1	8/24/01 1:43:48 AM
Surr: 4-Bromofluorobenzene	90.2	74-118		%REC	1	8/24/01 1:43:48 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *27-Aug-01*

CLIENT: Blagg Engineering
Work Order: 0108139
Project: Nancy Hartman #1E

QC SUMMARY REPORT
Method Blank

Sample ID: **Reagent Blank 5m** Batch ID: **R1931** Test Code: **SW8021** Units: **µg/L** Analysis Date: **8/23/01 8:35:34 AM** Prep Date:

Client ID: Run ID: **PIDFID_010823A** SeqNo: **42462**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.50									
Toluene	ND	0.50									
Ethylbenzene	ND	0.50									
Xylenes, Total	ND	0.50									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Blagg Engineering
Work Order: 0108139
Project: Nancy Hartman #1E

QC SUMMARY REPORT

Sample Duplicate

Sample ID: **0108139-01a** Batch ID: **R1931** Test Code: **SW8021** Units: **µg/L** Analysis Date: **8/23/01 11:29:07 PM** Prep Date:

Client ID: **MW-2M** Run ID: **PIDFID_010823A** SeqNo: **42470**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.50	0	0	0	0	0	0	0	20	
Toluene	52.38	0.50	0	0	0	0	0	53.66	2.41	20	
Ethylbenzene	11.02	0.50	0	0	0	0	0	11.35	2.95	20	
Xylenes, Total	317.9	0.50	0	0	0	0	0	325.9	2.50	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: *27-Aug-01*

CLIENT: Blagg Engineering
Work Order: 0108139
Project: Nancy Hartman #1E

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **0108139-02ms** Batch ID: **R1931** Test Code: **SW8021** Units: **µg/L** Analysis Date: **8/24/01 12:36:42 AM** Prep Date:

Client ID: Run ID: **PIDFID_010823A** SeqNo: **42472**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.45	0.50	20	0	102	77	122	0			
Toluene	20.27	0.50	20	0	101	81	115	0			
Ethylbenzene	20.73	0.50	20	0	104	84	117	0			
Xylenes, Total	64.99	0.50	60	0	108	84	116	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite A
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Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: (505) 632-1199
Fax #: (505) 632-3903

Project Name: NANCY HARTMAN #1E

Project #:

Project Manager: JEFF BLAGG

Sampler: NELSON VELEZ

Samples Cold?: ☒ Yes ☐ No

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HCl	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B MOD (Gas/Diesel)	TPH (Method 418.1)	Volatiles Full List (8021)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Cations (Na, K, Ca, Mg)	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260 (VOA)	8270 (Semi-VOA)			Air Bubbles or Headspace (Y or N)
8/16/01	1335	WATER	MW #2M	2		√	0108139-1	√																
8/21/01	0845	WATER	MW #2	2		√	-2	√																
8/21/01	0920	WATER	MW #6M	2		√	-3	√																

Date: 8/21/01 Time: 0945 Relinquished By: (Signature) Nelson Velez - NELSON VELEZ
Received By: (Signature) 8/21/01 1700

Date: Time: Relinquished By: (Signature)
Received By: (Signature)

Remarks: BTEX (8021B) ONLY. PLEASE FAX RESULTS UPON COMPLETION. - 915

Hall Environmental Analysis Laboratory

COVER LETTER

September 27, 2001

Jeff Blagg
Blagg Engineering
110 North 4th St.
Bloomfield, NM 87413
TEL: (505) 632-1199
FAX (505) 632-3903

RE: Nancy Hartman #1E Order No.: 0109101

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 3 samples on 9/18/01 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

Hall Environmental Analysis Laboratory

Date: *27-Sep-01*

CLIENT: Blagg Engineering
Project: Nancy Hartman #1E
Lab Order: 0109101

Lab ID: 0109101-01 **Collection Date:** 9/18/01 9:35:00 AM
Client Sample ID: MW #1A **Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX BY EPA 8021B		**SW8021**				Analyst: **BDH**
Benzene	14000	100		µg/L	200	9/25/01 3:14:53 PM
Toluene	23000	100		µg/L	200	9/25/01 3:14:53 PM
Ethylbenzene	1000	50		µg/L	100	9/24/01 2:44:26 PM
Xylenes, Total	14000	50		µg/L	100	9/24/01 2:44:26 PM
Surr: 4-Bromofluorobenzene	102	74-118		%REC	100	9/24/01 2:44:26 PM

Lab ID: 0109101-02 **Collection Date:** 9/18/01 8:35:00 AM
Client Sample ID: MW #4R **Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX BY EPA 8021B		**SW8021**				Analyst: **BDH**
Benzene	ND	0.50		µg/L	1	9/26/01 2:12:24 PM
Toluene	ND	0.50		µg/L	1	9/26/01 2:12:24 PM
Ethylbenzene	ND	0.50		µg/L	1	9/26/01 2:12:24 PM
Xylenes, Total	ND	0.50		µg/L	1	9/26/01 2:12:24 PM
Surr: 4-Bromofluorobenzene	95.9	74-118		%REC	1	9/26/01 2:12:24 PM

Lab ID: 0109101-03 **Collection Date:** 9/18/01 9:05:00 AM
Client Sample ID: MW #5A **Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX BY EPA 8021B		**SW8021**				Analyst: **BDH**
Benzene	640	63		µg/L	125	9/24/01 3:22:17 PM
Toluene	6500	63		µg/L	125	9/24/01 3:22:17 PM
Ethylbenzene	310	63		µg/L	125	9/24/01 3:22:17 PM
Xylenes, Total	3900	63		µg/L	125	9/24/01 3:22:17 PM
Surr: 4-Bromofluorobenzene	101	74-118		%REC	125	9/24/01 3:22:17 PM

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *27-Sep-01*

CLIENT: Blagg Engineering
Work Order: 0109101
Project: Nancy Hartman #1E

QC SUMMARY REPORT
Method Blank

Sample ID: **Reagent Blank 5m** Batch ID: **R2215** Test Code: **SW8021** Units: **µg/L** Analysis Date: **9/24/01 9:38:55 AM** Prep Date:
Client ID: Run ID: **PIDFID_010924A** SeqNo: **47654**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.50									
Toluene	ND	0.50									
Ethylbenzene	ND	0.50									
Xylenes, Total	ND	0.50									

Sample ID: **Reagent Blank 5m** Batch ID: **R2230** Test Code: **SW8021** Units: **µg/L** Analysis Date: **9/25/01 11:36:07 AM** Prep Date:
Client ID: Run ID: **PIDFID_010925A** SeqNo: **47970**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.50									
Toluene	ND	0.50									
Ethylbenzene	ND	0.50									
Xylenes, Total	ND	0.50									

Sample ID: **Reagent Blank 5m** Batch ID: **R2236** Test Code: **SW8021** Units: **µg/L** Analysis Date: **9/26/01 10:49:34 AM** Prep Date:
Client ID: Run ID: **PIDFID_010926A** SeqNo: **48063**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.50									
Toluene	ND	0.50									
Ethylbenzene	ND	0.50									
Xylenes, Total	ND	0.50									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: *27-Sep-01*

CLIENT: Blagg Engineering
Work Order: *0109101*
Project: Nancy Hartman #1E

QC SUMMARY REPORT
Sample Duplicate

Sample ID: **0109101-02a** Batch ID: **R2236** Test Code: **SW8021** Units: **µg/L** Analysis Date: **9/26/01 5:44:58 PM** Prep Date:
Client ID: **MW #4R** Run ID: **PIDFID_010926A** SeqNo: **48071**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.50	0	0	0	0	0	0	0	20	
Toluene	ND	0.50	0	0	0	0	0	0	0	20	
Ethylbenzene	ND	0.50	0	0	0	0	0	0	0	20	
Xylenes, Total	ND	0.50	0	0	0	0	0	0	0	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: *27-Sep-01*

CLIENT: Blagg Engineering
Work Order: 0109101
Project: Nancy Hartman #1E

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: **0109101-02ms** Batch ID: **R2215** Test Code: **SW8021** Units: **µg/L** Analysis Date: **9/24/01 6:01:56 PM** Prep Date:

Client ID: Run ID: **PIDFID_010924A** SeqNo: **47683**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	22	0.50	20	0	110	77	122	0			
Toluene	21.31	0.50	20	0	107	81	115	0			
Ethylbenzene	21.66	0.50	20	0	108	84	117	0			
Xylenes, Total	63.29	0.50	60	0	105	84	116	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
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Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: BLAGG ENGINEERING / MANANA GAS, INC.
Address: P.O. BOX 87 BLOOMFIELD, NM 87413
Phone #: (505) 632-1199
Fax #: (505) 632-3903

Project Name: NANCY HARTMAN #1E
Project #:
Project Manager: JEFF BLAGG
Sampler: NELSON VELEZ
Samples Cold?: ☒ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HCl	Preservative	HEAL No.
9/18/01	0935	WATER	MW #1A	2		✓		0109101-1
9/18/01	0835	WATER	MW #4R	2		✓		-2
9/18/01	0905	WATER	MW #5A	2		✓		-3

ANALYSIS REQUEST

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B MOD (Gas/Diesel)	TPH (Method 418.1)	Volatiles Full List (8021)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Cations (Na, K, Ca, Mg)	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260 (VOA)	8270 (Semi-VOA)			Air Bubbles or Headspace (Y or N)
✓																
✓																
✓																

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
9/18/01	1000	NELSON VELEZ	9/18/01 1645
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:
BTEX (8021B) ONLY. PLEASE FAX RESULTS UPON COMPLETION. mv