September 16, 2010

Mr. Glenn Von Gonten
Environmental Bureau
Oil Conservation Division
New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

Re: Remediation Plan
BP Heath GC G#1 Well, San Juan County, New Mexico
OCD Case # 3R424

Dear Mr. Von Gonten:

BP America Production (BP) is in the process of remediating a natural gas condensate release that occurred at the Heath GC G#1 Well in San Juan County, New Mexico. Pursuant to a phone conversation on August 23, 2010, BP is submitting this brief remediation plan to address the release under 19.15.29 of the New Mexico Administrative Code (NMAC). The remediation plan summarizes the following:

1. Site location and background information;
2. Results of previous soil, groundwater, and light non-aqueous phase liquid (LNAPL) assessments;
3. Completed and ongoing remedial activities;
4. Planned/potential additional activities to be completed at the site to further remediate and mitigate the migration of residual impacts at the site; and
5. References.

1.0 Site Location and Background Information

The Heath GC G#1 Well site is located in Township 29N, Range 09W, Section 8 at latitude 36.73543, longitude 107.80416 in San Juan County, New Mexico, east of the community of Blanco. The site is located within an arroyo on federal land owned by the Bureau of Land Management (BLM) (Figure 1).

On January 5, 2010 notification form C-141 was submitted to the New Mexico Oil Conservation Division (NMOCD) by Mr. Buddy Shaw for a release that occurred at the Heath GC G#1 site. The form described a natural gas condensate release from a 12-foot diameter, 300 barrel (bbl) above ground storage tank (AST) located at the site. This form was a follow-up to the initial notification in November 2009. As property owner, the BLM also received a copy of this form in December 2009.

During your August, 23, 2010 phone conversation with Ms. Lisa Emmet, it was indicated that a case file had not yet been created by the NMOCD for this release. Therefore, form C-141 was resubmitted to you by Lisa via email on August 25, 2010. Based upon subsequent e-mail communication from you on August 31, 2010, we understand that NMOCD will review and have BP conduct investigation and remediation at the site pursuant to Section 19.15.29 NMAC. BP further understands that upon your

approval of this plan remediation may be conducted for up to one year and after that year an abatement plan may be required under 19.15.30.11 NMAC.

2.0 Summary of Previous Site Investigation Results

Numerous soil borings and monitoring wells have been installed to characterize the site geology and the nature, degree, and extent of groundwater impacts caused by the release. The current site well network, shown in Figure 2, consists of 33 monitoring wells (2-inch diameter) and 11 recovery wells (4-inch diameter). Data from these wells indicate that the depth to groundwater is approximately 20 to 25 ft below ground surface (bgs), with a saturated thickness of approximately 8 to 10 feet. Based on monitoring well boring logs, this shallow unconfined water bearing unit consists of silty sand, and is underlain by a relatively impermeable clay or claystone layer at approximately 30-35 feet bgs. The lower confining layer is reportedly regionally extensive, and serves as the upper confining unit for a saline water bearing unit. Based on boring logs and monitoring wells installed at the site, the shallow water bearing unit is likely contained within a groundwater flow channel that roughly follows the topographic drainage of the arroyo.

As shown on the groundwater potentiometric surface contour map for August 2010 (Figure 3), groundwater generally appears to flow east to west, with a gradient of approximately 0.009 foot per foot (ft/ft). Based on Darcy's Law, an estimated groundwater flow velocity can be calculated using the gradient, the average hydraulic conductivity derived from field tests [5×10^{-3} centimeters per second (cm/sec)], and an assumed porosity range of 25% to 40%. Based upon this information, the range of calculated groundwater velocities is approximately 0.3 to 0.5 feet per day (ft/day). Water levels at the site have been relatively stable; hydrograph data presented on Figure 4 indicate that water levels have varied approximately 0.5 feet over the past six months.

BP has also been gauging LNAPL thickness in several on-site monitoring wells since January 2010 and completed a brief hydrocarbon bail-down study in June 2010 to evaluate potential LNAPL recoverability. LNAPL transmissivities were calculated at MW-3 and MW-8 according to an established procedure (Huntley, 2000). The results (7.58×10^{-5} and 3.87×10^{-5} cm^2/s, respectively) indicate relatively low LNAPL mobility. These values are near the minimum threshold transmissivity of 1×10^{-6} cm^2/s cited by ASTM guidance for productive LNAPL recovery (ASTM, 2007). LNAPL thicknesses of up to 1.67 feet have been observed in on-site monitoring wells; however, the areal extent of LNAPL appears to be relatively limited and stable. Gauged LNAPL thickness observed in August 2010 are presented in Figure 5.

Groundwater sampling has been conducted on a monthly basis since January 2010. Groundwater samples collected from the shallow well network have been analyzed for volatile organic compounds (VOCs) by USEPA SW 846 Method 8260B. The analytical data indicate that shallow groundwater has been impacted by benzene, toluene, ethylbenzene and xylenes (BTEX), with some detected concentrations

above the State of New Mexico Water Quality Control Commission standards. Table 1 summarizes the historical groundwater analytical data for BTEX at site monitoring wells. Figure 5 presents the August and July 2010 analytical results for BTEX.

3.0 Summary of Completed and Ongoing Remedial Activities

BP has been working to address the condensate release from the Heath GC G #1 well site since it was first identified in December 2009. Remedial activities completed to date include limited soil excavation, LNAPL recovery, and installation/operation of an air sparge system. A brief description of completed and currently ongoing remedial activities is summarized below.

3.1 Soil Excavation

Impacted soil from the AST release was observed on December 11, 2009, and the extent of soil impacts around the AST was further investigated on December 18, 2009. In late December 2009/early January 2010, BP excavated impacted soil from an area approximately 70 ft x 60 ft x 25 ft deep surrounding the AST (which had been removed prior to excavation). The excavation was extended to approximately 5 ft below the groundwater interface to remove potential capillary fringe impacts. Soils removed from the remedial excavation (approximately 4,000 cubic yards), were subsequently transported to the BP Crouch Mesa landfarm for treatment.

3.2 LNAPL Skimming

As a result of the detection of LNAPL at the site, two Geotech Solar Sippers ("skimmers") were installed in March 2010. Two additional skimmers will be installed in September 2010. The skimmers are periodically moved between wells depending upon the observed presence of LNAPL. The total recovery rate of the skimmers has been estimated to be approximately 5 gallons per week. Recovered LNAPL is stored in a 100-bbl tank prior to offsite removal. BP intends to continue LNAPL recovery as part of the overall remedial strategy for the site.

3.3 Air Sparge System

Groundwater is currently being treated through an air sparge system, which provides some air stripping and promotes biodegradation of residual BTEX in the shallow groundwater underlying the site. The central portion of the system was installed in February and March 2010. More recently, an extension of the sparge system was installed in the western area in May and June 2010 (see Figure 2). To date, a total of 69 air sparge points have been installed. Two portable diesel-powered compressors provide compressed air for the sparge points. The system uses approximately 10-15 cubic feet per minute (cfm) of compressed air per air sparge well. BP intends to continue air sparging as part of the overall remedial strategy for the site. Replacement of the portable compressors with electric powered compressors is anticipated in the future.

4.0 Potential Additional Activities

BP intends to implement additional activities at the Heath GC G#1 well site to further address residual impacts associated with the condensate release. BP intends to implement the planned/proposed additional activities in a phased, incremental approach in order to allow the remedial efficacy data from each phase to be incorporated into the planning and design of subsequent phases. Potential groundwater recovery, chemical oxidation, and monitored natural attenuation remedial approaches are further described below.

4.1 Hydraulic Barrier

BP intends to implement a down-gradient hydraulic barrier groundwater recovery system to mitigate shallow groundwater impacts. In order to provide a hydraulic barrier against groundwater migration along the western portion of the site, a line of approximately four recovery wells will be installed on the western edge of the groundwater BTEX plume (likely in September 2010). The general location of the proposed recovery wells are shown on Figure 2. Permission has been obtained from the BLM for installation of these wells.

Each recovery well will be pumped at approximately 2 gallons per minute (gpm) using either above ground or submersible pumps. Recovered groundwater may be stored in an onsite tank and hauled for disposal, or it may be treated onsite using oil/water separation and air stripping, and then be re-injected into shallow injection wells and/or an infiltration gallery to be located nearby. Additional groundwater extraction wells located within the LNAPL area may also be used on an intermittent basis to enhance overall recovery of LNAPL.

4.2 Chemical Oxidation

Chemical oxidation may also be used to further address residual groundwater quality impacts at the site. Chemical oxidation involves the injection of a strong oxidizer, such as persulfate or stabilized peroxide, to destroy BTEX constituents. Injection may be conducted using wells or direct push single use injection points, and may be administered either by pumping or gravity flow. Design of a potential chemical oxidation program will be based upon site-specific geologic/hydrogeologic conditions, results of additional data from the site, and the collective effectiveness of the LNAPL recovery, groundwater recovery, and air sparge systems based on systematic periodic monitoring of these efforts.

4.3 Natural Attenuation

Primary remedial alternatives (LNAPL recovery, groundwater recovery, and air sparge systems) are currently being focused on actively addressing residual impacts to shallow groundwater quality. The objective of these primary remedial actions is to remove contaminant mass and

mitigate the potential migration of impacts. Following implementation of these more aggressive remedial activities, monitored natural attenuation may be an appropriate polishing step for the site. In the future, BP may collect site-specific data in order to demonstrate the potential efficacy of monitored natural attenuation as a component of the overall remedial strategy.

5.0 References

ASTM, 2007, Standard Guide for Development of Conceptual Site Models and Remediation Strategies for Light Nonaqueous-Phase Liquids Released to the Subsurface, ASTM E2531- 06e1

Huntley, D., 2000, Analytical determination of hydrocarbon transmissivity from baildown tests, Ground Water, Vol. 38, No. 1, January-February 2000

BP appreciates the NMOCD's assistance with the Heath GC G#1 site. If you have any questions or require additional information, please do not hesitate to call me at 505-326-9479.

Sincerely,
BP America Production Co.

Jeff Peace, PE
Field Environmental Advisor

Attachments

cc: John Pietz, Trihydro Corporation
Lisa Emmet, BP
Mike Scoggins, BP

TABLES

TABLE 1. GROUNDWATER QUALITY DATA SUMMARY - BTEX, HEATH GC G#1 WELL SITE
BP AMERICA PRODUCTION, SAN JUAN COUNTY, NEW MEXICO

Location ID	Date Sampled	Benzene (ug/L)	Toluene (ug/L)	Ethyl-benzene (ug/L)	Xylenes, Total (ug/L)
MW-1	12/15/09	2750	5870	563	5690
	02/18/10	870	4900	670	8500
	04/26/10	360	1900	400	3500
	05/24/10	160	950	250	2100
	06/18/10	77.6	457	147	1050
	07/14/10	46.1	177	117	396
	08/12/10	40.7	157	99.6	533
MW-5	01/28/10	ND(1)	ND(1)	ND(1)	ND(2)
	02/24/10	190	590	35	460
	03/24/10	900	3400	230	2900
	04/27/10	320	1900	140	1900
	05/25/10	770	4800	330	4100
	06/18/10	307	1390	78.3	1910
	07/14/10	36.6	220	23.4	365
MW-7	01/28/10	ND(1)	ND(1)	ND(1)	ND(2)
	03/08/10	60	200	16	160
	03/24/10	23	90	6.4	51
	04/27/10	11	45	3.2	38
	05/25/10	2.7	24	1.9	23
	06/16/10	ND(1)	7.6	ND(1)	8
	07/12/10	ND(1)	5.5	ND(1)	8.4
	08/10/10	1.9	23.6	3.2	37.4
MW-8	01/28/10	1100	1900	120	1500
MW-10	01/28/10	7900	16000	680	9800
	02/24/10	1200	350	80	850
	03/24/10	800	86	84	420
	04/27/10	950	520	67	1300
	05/25/10	770	580	110	1200
	06/16/10	2030	1100	315	3140
	07/15/10	1770	326	344	1740
	08/12/10	1210	149	164	1070
MW-11	02/11/10	1500	1000	160	1900
	02/24/10	3300	4000	320	4400
	03/24/10	1600	170	120	1400
	04/27/10	220	ND(5)	11	67
	05/25/10	320	ND(5)	66	37

Notes:
- Data collected prior to June 2010 based on bailer sampling completed by Blagg Engineering, Inc. and analyzed by Hall Labs by USEPA Method 8021
- Data collected in June 2010 based on low-flow sampling completed by Trihydro Corporation and analyzed by Pace Labs (Lenexa, Kansas) by USEPA 8260B

TABLE 1. GROUNDWATER QUALITY DATA SUMMARY - BTEX, HEATH GC G#1 WELL SITE
BP AMERICA PRODUCTION, SAN JUAN COUNTY, NEW MEXICO

Location ID	Date Sampled	Benzene (ug/L)	Toluene (ug/L)	Ethyl-benzene (ug/L)	Xylenes, Total (ug/L)
MW-11	06/18/10	265	ND(2)	47.5	22.2
	07/15/10	531	2.1	25	18.1
	08/12/10	16.6	5.1	1.7	3.4
MW-15	02/18/10	ND(1)	ND(1)	ND(1)	ND(2)
	06/16/10	ND(1)	ND(1)	ND(1)	ND(3)
	08/10/10	ND(1)	ND(1)	ND(1)	ND(3)
MW-16	02/24/10	120	410	17	240
	03/24/10	79	1.2	12	44
	04/27/10	92	ND(1)	13	7.2
	05/25/10	29	7.7	9.9	5.8
	06/18/10	2.6	2.3	3.4	3.2
	07/12/10	ND(1)	4.5	1.3	8.9
	08/10/10	ND(1)	1.3	ND(1)	3.5
MW-17	02/18/10	150	550	49	570
	04/27/10	67	320	23	320
	05/24/10	43	240	18	290
	06/18/10	8.7	56.1	5.1	98.9
	07/12/10	6.4	47.1	3.5	78.1
	08/10/10	ND(1)	5.9	ND(1)	23.4
MW-23	02/18/10	91	570	59	780
	04/26/10	22	95	17	210
	05/24/10	9.2	28	9	100
	06/16/10	7.7	3.7	7.8	71.5
	07/13/10	3.9	ND(1)	4	29.5
	08/10/10	3.9	ND(1)	5	22.8
MW-24	03/22/10	17	67	5.4	50
	04/26/10	22	120	7.8	95
	05/24/10	18	110	7.5	97
	06/15/10	3.7	24.1	2.2	26.9
	07/13/10	4.1	40.4	2.9	39.1
	08/10/10	1.6	21.6	1.6	19.6
MW-25	03/22/10	10	23	1.2	5.4
	04/26/10	19	82	5.4	61
	05/24/10	6.8	35	1.6	36
	06/15/10	ND(1)	ND(1)	ND(1)	ND(3)
	08/10/10	ND(1)	ND(1)	ND(1)	ND(3)

Notes:
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- Data collected in June 2010 based on low-flow sampling completed by Trihydro Corporation and analyzed by Pace Labs (Lenexa, Kansas) by USEPA 8260B

TABLE 1. GROUNDWATER QUALITY DATA SUMMARY - BTEX, HEATH GC G#1 WELL SITE
BP AMERICA PRODUCTION, SAN JUAN COUNTY, NEW MEXICO

Location ID	Date Sampled	Benzene (ug/L)	Toluene (ug/L)	Ethyl-benzene (ug/L)	Xylenes, Total (ug/L)
MW-26	03/22/10	27	120	8.1	89
	04/26/10	23	140	6.8	96
	05/24/10	5.1	21	1.7	15
	06/15/10	ND(1)	2.3	ND(1)	4.6
	08/10/10	ND(1)	2	ND(1)	6.1
MW-27	03/22/10	ND(1)	ND(1)	ND(1)	ND(2)
	04/27/10	ND(1)	ND(1)	ND(1)	ND(2)
	05/25/10	ND(1)	ND(1)	ND(1)	ND(2)
	06/15/10	ND(1)	ND(1)	ND(1)	ND(3)
	08/10/10	ND(1)	ND(1)	ND(1)	ND(3)
MW-28	03/22/10	87	71	9.9	78
	04/27/10	ND(1)	ND(1)	ND(1)	ND(2)
	05/25/10	ND(1)	ND(1)	ND(1)	ND(2)
	06/15/10	ND(1)	ND(1)	ND(1)	ND(3)
	07/13/10	ND(1)	ND(1)	ND(1)	ND(3)
	08/11/10	ND(1)	ND(1)	ND(1)	ND(3)
MW-29	03/22/10	68	48	5.9	70
	04/26/10	950	48	73	240
	05/25/10	470	ND(5)	43	200
	06/16/10	1.8	4.6	1.2	8.6
	07/13/10	ND(1)	ND(1)	ND(1)	ND(3)
	08/11/10	ND(1)	ND(1)	ND(1)	ND(3)
MW-30	03/22/10	2300	2000	220	2600
	04/27/10	200	ND(5)	20	48
	05/25/10	260	39	25	230
	06/18/10	90.1	12.7	19.2	26.5
	07/15/10	2360	ND(50)	91.5	674
	08/11/10	1270	ND(25)	ND(25)	ND(75)
RW-33	06/18/10	3120	1340	551	1980
	07/15/10	2850	ND(50)	669	405
	08/12/10	1950	ND(25)	457	ND(75)
MW-34	04/26/10	18	28	1.1	15
	05/24/10	92	8.6	6.2	34
	06/16/10	627	ND(5)	33.9	101
	07/06/10	908	ND(1)	84.5	201
	07/15/10	582	ND(1)	58.9	147

Notes:
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- Data collected in June 2010 based on low-flow sampling completed by Trihydro Corporation and analyzed by Pace Labs (Lenexa, Kansas) by USEPA 8260B

TABLE 1. GROUNDWATER QUALITY DATA SUMMARY - BTEX, HEATH GC G#1 WELL SITE
BP AMERICA PRODUCTION, SAN JUAN COUNTY, NEW MEXICO

Location ID	Date Sampled	Benzene (ug/L)	Toluene (ug/L)	Ethyl-benzene (ug/L)	Xylenes, Total (ug/L)
MW-34	08/11/10	95.2	ND(1)	14.1	29.7
MW-35	04/26/10	140	680	96	1200
	05/24/10	180	770	100	1300
	06/16/10	70.4	143	31.1	296
	07/14/10	30.6	32	21.3	170
	08/11/10	55.5	52.3	38.3	200
MW-36	04/26/10	ND(1)	ND(1)	ND(1)	ND(2)
	05/24/10	ND(1)	ND(1)	ND(1)	ND(2)
	06/15/10	ND(1)	ND(1)	ND(1)	ND(3)
	08/10/10	ND(1)	ND(1)	ND(1)	ND(3)
MW-38	06/02/10	ND(1)	ND(1)	ND(1)	ND(2)
	06/18/10	ND(1)	ND(1)	ND(1)	ND(3)
	07/13/10	ND(1)	ND(1)	ND(1)	ND(3)
	08/11/10	ND(1)	ND(1)	ND(1)	ND(3)
MW-39	06/02/10	ND(1)	ND(1)	ND(1)	ND(2)
	06/18/10	ND(1)	ND(1)	ND(1)	ND(3)
	07/13/10	ND(1)	ND(1)	ND(1)	ND(3)
	08/11/10	ND(1)	ND(1)	ND(1)	ND(3)
MW-40	06/02/10	ND(1)	ND(1)	ND(1)	ND(2)
	06/18/10	ND(1)	ND(1)	ND(1)	ND(3)
	07/13/10	ND(1)	ND(1)	ND(1)	ND(3)
	08/11/10	ND(1)	ND(1)	ND(1)	ND(3)
MW-41	06/02/10	ND(1)	ND(1)	ND(1)	ND(2)
	06/18/10	ND(1)	ND(1)	ND(1)	ND(3)
	07/13/10	41.7	ND(1)	1.1	5.6
	07/15/10	40.2	ND(1)	1.8	6.3
	08/11/10	ND(1)	ND(1)	ND(1)	ND(3)
MW-42	07/06/10	217	ND(1)	15.4	39.2
	07/14/10	329	ND(1)	23.2	64.9
	08/11/10	804	ND(5)	61.9	175
MW-43	07/06/10	323	3.7	25.8	149
	07/14/10	421	2.3	12.4	122
	08/11/10	52.7	ND(1)	11.4	ND(3)
MW-44	07/06/10	130	4.8	6.9	33.8
	07/14/10	117	ND(1)	5.7	28.4
	08/11/10	116	1.2	6.8	26

Notes:
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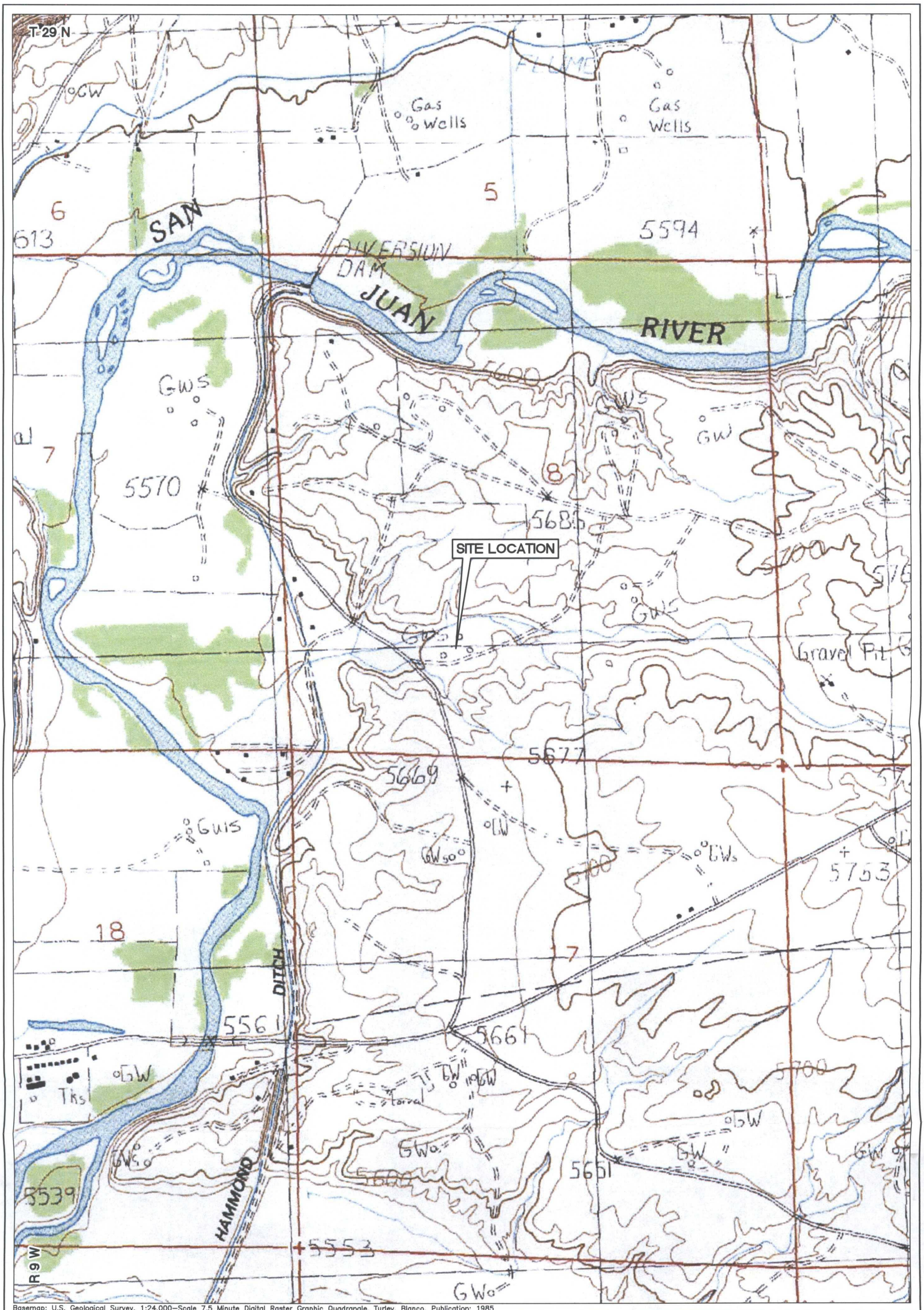
- Data collected in June 2010 based on low-flow sampling completed by Trihydro Corporation and analyzed by Pace Labs (Lenexa, Kansas) by USEPA 8260B

TABLE 1. GROUNDWATER QUALITY DATA SUMMARY - BTEX, HEATH GC G#1 WELL SITE
BP AMERICA PRODUCTION, SAN JUAN COUNTY, NEW MEXICO

Location ID	Date Sampled	Benzene (ug/L)	Toluene (ug/L)	Ethyl-benzene (ug/L)	Xylenes, Total (ug/L)
MW-45	07/06/10	ND(1)	ND(1)	ND(1)	ND(3)
	07/14/10	ND(1)	ND(1)	ND(1)	ND(3)
	08/11/10	ND(1)	ND(1)	ND(1)	ND(3)
MW-46	08/19/10	4.7	ND(1)	ND(1)	ND(3)
MW-47	08/23/10	ND(1)	ND(1)	ND(1)	ND(3)
MW-48	08/23/10	ND(1)	ND(1)	ND(1)	ND(3)
TW-65E	07/13/10	ND(1)	ND(1)	ND(1)	ND(3)
TW-67E	07/13/10	98	1.6	4.9	22.2
Trip Blank	07/14/10	ND(1)	ND(1)	ND(1)	ND(3)
	07/15/10	ND(1)	ND(1)	ND(1)	ND(3)
	08/10/10	ND(1)	ND(1)	ND(1)	ND(3)

Notes:
- Data collected prior to June 2010 based on bailer sampling completed by Blagg Engineering, Inc. and analyzed by Hall Labs by USEPA Method 8021
- Data collected in June 2010 based on low-flow sampling completed by Trihydro Corporation and analyzed by Pace Labs (Lenexa, Kansas) by USEPA 8260B

FIGURES



Basemap: U.S. Geological Survey, 1:24,000–Scale 7.5 Minute Digital Raster Graphic Quadrangle, Turley, Blanco, Publication: 1985

NEW MEXICO

QUADRANGLE LOCATION

NOTE:

SITE LEGAL DESCRIPTION -
TOWNSHIP 29 NORTH,
RANGE 9 WEST,
SECTION 8

N

0 1,000'

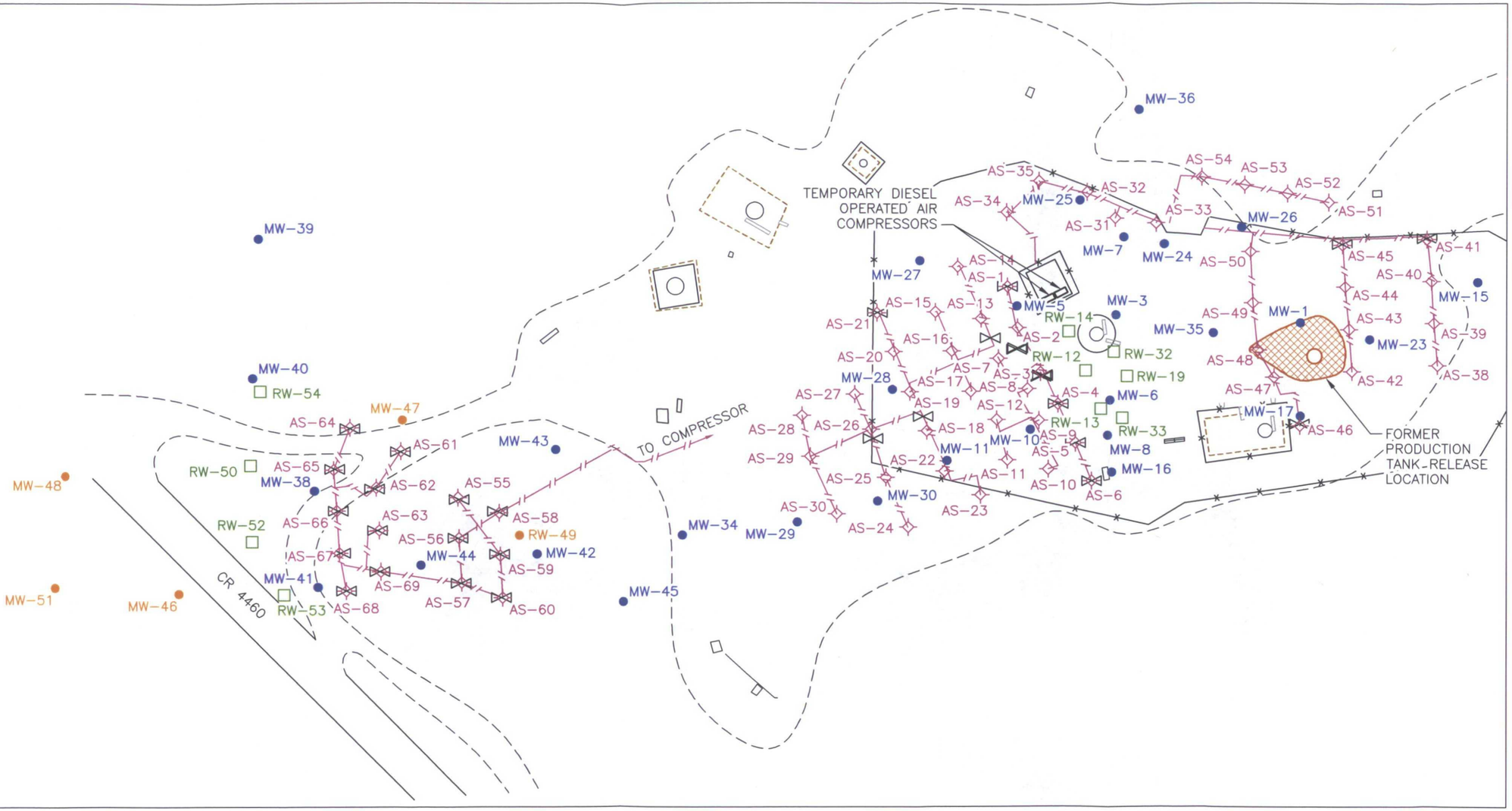
Trihydro CORPORATION
1252 Commerce Drive
Laramie, Wyoming 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

FIGURE 1

SITE LOCATION

HEATH GC G#1 WELL SITE
BP AMERICA PRODUCTION
SAN JUAN COUNTY, NEW MEXICO

Drawn By: REP	Checked By: AR	Scale: 1" = 1,000'	Date: 6/14/2010	File: 865-USGS-LOC-201006



EXPLANATION

- MW-46 — MONITORING WELL AND DESIGNATION (APPROXIMATE LOCATION)
- MW-41 — MONITORING WELL AND DESIGNATION
- AS-30 — AIR SPARGE WELL AND DESIGNATION
- RW-33 — RECOVERY WELL AND DESIGNATION
- FENCE
- ROAD EDGE
- EDGE OF IMPROVED DIRT AREA
- EXISTING BERM
- EXISTING AIR SPARGE PIPELINE
- APPROXIMATE EXCAVATION PERIMETER (73'X58'X25')
- GATE VALVE

N

0 80'

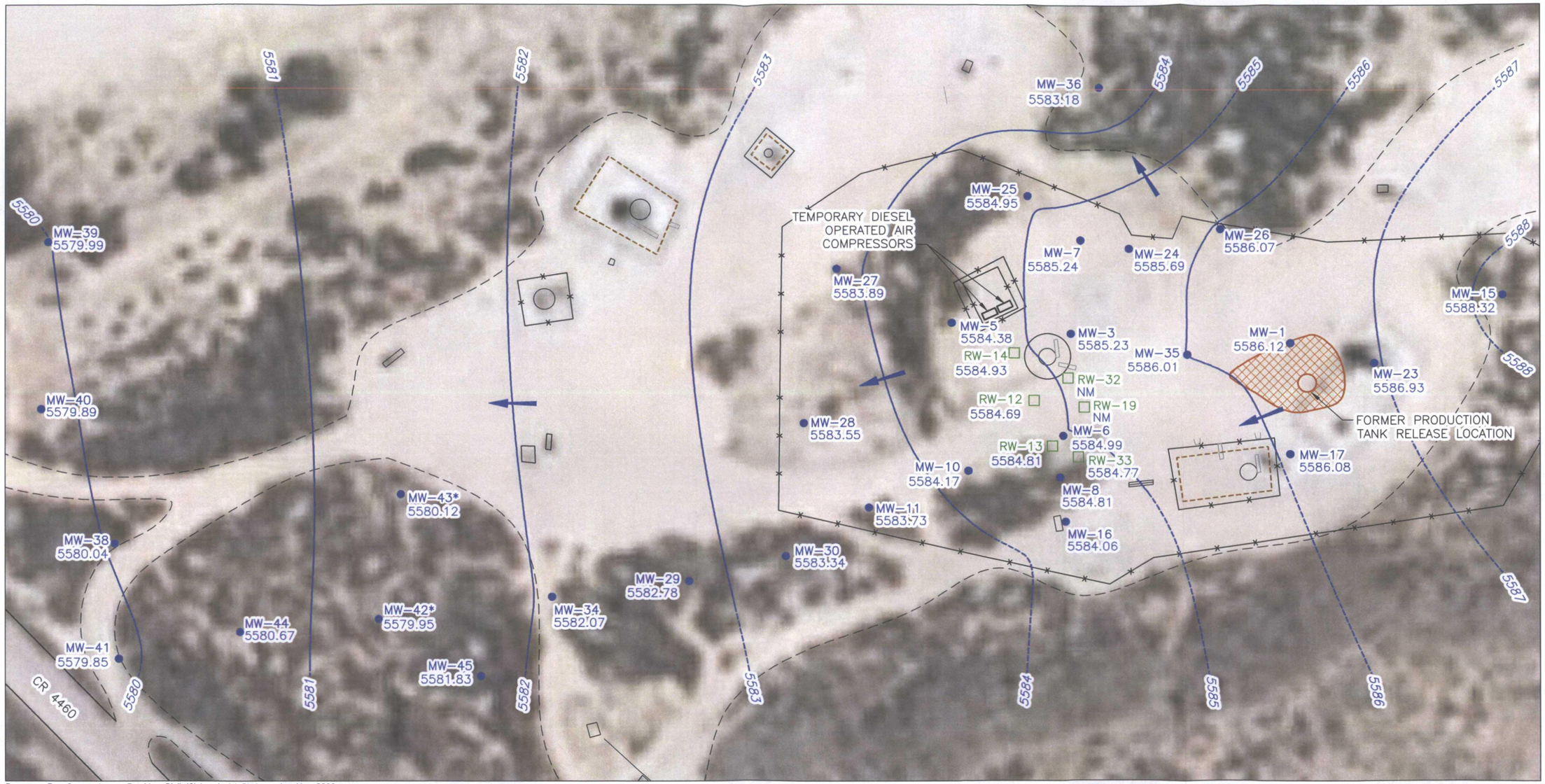
Trihydro CORPORATION
1252 Commerce Drive
Laramie, Wyoming 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

FIGURE 2

SITE PLAN

HEATH GC G#1 WELL SITE
BP AMERICA PRODUCTION
SAN JUAN COUNTY, NEW MEXICO

Drawn By: REP	Checked By: JP	Scale: 1" = 80'	Date: 9/14/2010	File: 865-SITE-LOC-20100825



Basemap: TerraServer, Image Provider: DigitalGlobe, Aerial Photography: May 2009

EXPLANATION

- MW-41 5579.85 — MONITORING WELL AND DESIGNATION SHOWING GROUNDWATER ELEVATION IN FT BMP
- RW-32 NM — RECOVERY WELL AND DESIGNATION SHOWING GROUNDWATER ELEVATION IN FT BMP
- 5581 — LINE OF EQUAL GROUNDWATER CONCENTRATION, DASHED WHERE INFERRED, CONTOUR INTERVAL = 1'
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- FENCE
- ROAD EDGE
- EDGE OF IMPROVED DIRT AREA
- EXISTING BERM
- APPROXIMATE EXCAVATION PERIMETER (73'X58'X25')
- FT BMP — FEET BELOW MEASURING POINT
- NM — NOT MEASURED
- * — INDICATES WELL WAS NOT USED FOR DEVELOPING CONTOUR LINES

N

0 60'

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FIGURE 3
POTENTIOMETRIC SURFACE CONTOUR MAP
SPARGE SYSTEM OFF
(AUGUST 10, 2010)
HEATH GC G#1 WELL SITE
BP AMERICA PRODUCTION
SAN JUAN COUNTY, NEW MEXICO

Drawn By: REP	Checked By: JP	Scale: 1" = 60'	Date: 8/17/2010	File: 865-PS-20100810

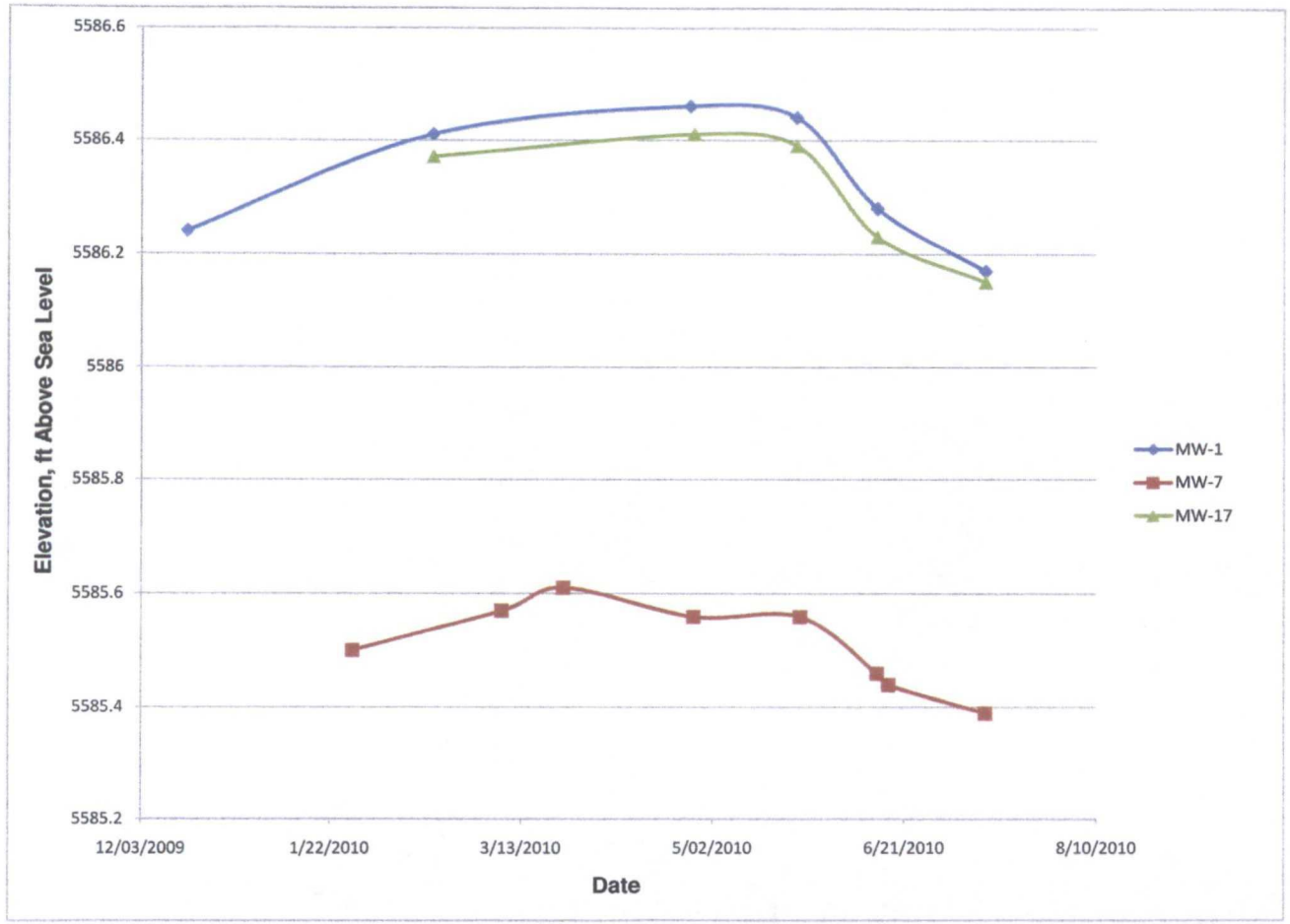

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FIGURE 4

MONITORING WELLS HYDROGRAPH (JUNE AND JULY 2010)

HEATH GC G#1 WELL SITE
BP AMERICA PRODUCTION
SAN JUAN COUNTY, NEW MEXICO

Drawn By: REP	Checked By: JP	Scale: NONE	Date: 8/6/2010	File: 865-HYDROGRAPHS201008

7/13/10	8/11/10
ALL	ND	ND

MW-39

7/14/10	8/11/10
B	**421**	**52.7**
T	2.3	ND(1)
E	12.4	11.4
X	122	ND(3)

7/13/10	8/11/10
ALL	ND	ND

MW-40

8/23/10
B	ND(1)
T	ND(1)
E	ND(1)
X	ND(1)

MW-48

7/13/10	8/11/10
ALL	ND	ND

MW-47

MW-38

8/23/10
B	ND(1)
T	ND(1)
E	ND(1)
X	ND(1)

MW-43

MW-34

8/19/10
B	4.7
T	ND(1)
E	ND(1)
X	ND(1)

MW-46

CR 4460

RW-49

MW-44

MW-42

MW-41

7/13/10	8/11/10
B	**40.2**	ND(1)
T	ND(1)	ND(1)
E	1.8	ND(1)
X	6.3	ND(1)

7/14/10	8/11/10
B	**117**	**116**
T	ND(1)	1.2
E	5.7	6.8
X	28.4	26

7/14/10	8/10/10
B	**30.6**	5.5
T	32	52.3
E	21.3	38.3
X	170	200

7/14/10	8/10/10
B	**36.6**	NS
T	220	NS
E	23.4	NS
X	365	NS

6/15/10	8/10/10
ALL	ND	ND

MW-27

7/15/10	8/11/10
B	**582**	**95.2**
T	ND(1)	ND(1)
E	58.9	14.1
X	147	29.7

7/13/10	8/11/10
ALL	ND	ND

MW-28

TO COMPRESSOR

7/13/10	8/11/10
ALL	ND	ND

MW-29

MW-30

7/15/10	8/10/10
B	**2360**	**1270**
T	ND(50)	ND(25)
E	91.5	ND(25)
X	**674**	ND(75)

MW-45

7/14/10	8/11/10
ALL	ND	ND

7/14/10	8/11/10
B	**329**	**804**
T	ND(1)	ND(1)
E	23.2	61.9
X	64.9	175

7/12/10	8/10/10
B	ND(1)	1.9
T	5.5	23.6
E	ND(1)	3.2
X	8.4	37.4

6/15/10	8/10/10
ALL	ND	ND

MW-36

MW-25

7/13/10	8/10/10
B	4.1	1.6
T	40.4	21.6
E	2.9	1.6
X	39.1	19.6

MW-7

MW-24

MW-26

6/15/10	8/10/10
B	ND(1)	ND(1)
T	2.3	2
E	ND(1)	ND(1)
X	4.6	6.1

TEMPORARY DIESEL OPERATED AIR COMPRESSORS

MW-5

(0.18, 8/9/2010)

RW-14

MW-3

(0.68, 8/9/2010)

MW-35

RW-32

(0.11, 8/9/2010)

RW-12

MW-6

(0.26, 8/9/2010)

RW-19

(0.72, 8/9/2010)

RW-13

MW-8

(0.95, 8/9/2010)

RW-33

MW-10

MW-11

MW-16

6/16/10	8/10/10
ALL	ND	ND

MW-15

MW-1

MW-23

MW-17

FORMER PRODUCTION TANK-RELEASE LOCATION

7/12/10	8/10/10
B	6.4	ND(1)
T	47.1	5.9
E	3.5	ND(1)
X	78.1	23.4

7/15/10	8/12/10
B	**531**	**16.6**
T	2.1	5.1
E	25	1.7
X	18.1	3.4

7/15/10	8/12/10
B	**1770**	**1210**
T	326	149
E	344	164
X	**1740**	**1070**

7/14/10	8/12/10
B	**46.1**	**40.7**
T	177	157
E	117	99.6
X	396	533

7/13/10	8/10/10
B	3.9	3.9
T	ND(1)	ND(1)
E	4	5
X	29.5	22.8

7/12/10	8/10/10
B	ND(1)	ND(1)
T	4.5	1.3
E	1.3	ND(1)
X	8.9	3.5

7/15/10	8/12/10
B	**2850**	**1950**
T	ND(50)	ND(25)
E	669	457
X	405	ND(75)

EXPLANATION

- MW-46 — MONITORING WELL AND DESIGNATION (APPROXIMATE LOCATION)
- MW-41 — MONITORING WELL AND DESIGNATION
- RW-33 — RECOVERY WELL AND DESIGNATION
- FENCE
- ROAD EDGE
- EDGE OF IMPROVED DIRT AREA
- EXISTING BERM
- APPROXIMATE EXCAVATION PERIMETER (73'X58'X25')
- (0.23, 8/10/2010) — LNAPL THICKNESS (FT) AND DATE MEASURED

ANALYTE TABLE EXPLANATION

	8/10/10 ← SAMPLE DATE
Benzene →	B	10
Toluene →	T	750
Ethylbenzene →	E	750
Xylenes, Total →	X	620

NOTES:

1. ALL VALUES IN MICROGRAMS PER LITER (ug/L)
2. VALUES IN **BOLD AND BLACK COLOR** EXCEED NEW MEXICO GROUNDWATER STANDARDS
3. ND NOT DETECTED
4. NS = NOT SAMPLED DUE TO LNAPL OR PUMP IN WELL

N

0 80'

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FIGURE 5

BTEX AND LNAPL THICKNESS (AUGUST 2010)

HEATH GC G#1 WELL SITE
BP AMERICA PRODUCTION
SAN JUAN COUNTY, NEW MEXICO

Drawn By: REP	Checked By: JP	Scale: 1" = 80'	Date: 8/30/2010	File: 865-MW-RW-BTEX-201008