ABBREVIATED WORK PLAN – SEPTEMBER 2016
VERTICAL PROFILE BORING/ RECOVERY WELL INSTALLATION AND AQUIFER TESTING FOR RE108 HOT SPOT
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT (NWIRP), BETHPAGE, NEW YORK

This abbreviated work plan has been prepared for the Mid-Atlantic Division of the Naval Facilities Engineering Command (NAVFAC) pursuant to Contract Task Order (CTO) WE80, issued under Comprehensive Long-term Environmental Action Navy (CLEAN) contract number N62470-11-D-8013. This investigation is being conducted to better define the local aquifer hydrogeology and to support the remedial design for the RE108 hot spot treatment system of the Naval Weapons Industrial Reserve Plant (NWIRP) Bethpage, Long Island, New York (Figure 1).

Scope and Objectives

The objective of the field investigation is to further characterize the local aquifer and develop hydrogeological parameters needed to design a recovery well(s). The recovery well(s) is intended to hydraulically capture the RE108 Hot Spot groundwater contamination that is currently flowing and anticipated to flow through this area (Figure 2). Regional groundwater flow is south-southeast, but is locally affected by the operation of recharge basins and public water supply wells (Resolution Consultants, 2016). During the drilling of the recovery well, the lithology will be logged and pumping tests will be conducted to develop aquifer parameters and assess the future locations and construction of the RE108 Hot Spot recovery well(s).

This investigation will consist of the following tasks:

- Drilling, logging, and sampling of one 8- to 10-inch vertical profile boring (VPB) to a depth of approximately 760 feet (ft) below ground surface (bgs). During installation of the VPB, groundwater samples will be collected using a Hydropunch™ and submitted to a laboratory for analysis of volatile organic compounds (VOC) using EPA Method 8260C. In addition, a continuous lithologic log will be constructed based on drill cuttings, and split spoon samples will be periodically collected through the targeted recovery well screen interval. Upon completion of the boring, it will be geophysically logged for natural gamma and single point resistivity.

- Installation of one 12-inch recovery well will be performed by over-drilling the VPB bore hole. The recovery well will be developed and utilized to conduct a series of aquifer tests to establish the hydrological parameters for the area of study. The permanent recovery well will be surveyed and one round of groundwater samples will be collected for VOC analysis using EPA Method 8260C.

- Performance of a step drawdown and a constant rate aquifer test using the newly installed recovery well.
- Data reduction of the Pumping Tests and estimation of aquifer parameters transmissivity (T) and storativity (S).
- Groundwater quality samples to be collected during aquifer testing to assess short-term changes in raw water quality and ensure compliance with discharge permit requirements.

Boring Location

The work will be conducted at one site, designated as VPB171, located 1.7 miles south of the NWIRP Bethpage and NG parcels, within the fenced area of Nassau County Basin #305 (Site) located at Hicksville Road across from Moore Drive in Bethpage, NY (Figure 1). Figure 2 provides the regional location of the proposed VPB and recovery well, and the location of the area of study. The drilling location is shown aerially in Figure 3.

Site History

NWIRP Bethpage is located in east-central Nassau County, Long Island, New York, approximately 30 miles east of New York City (Figure 1). NWIRP Bethpage is in the Hamlet of Bethpage, Town of Oyster Bay, New York. Since its inception in 1941, the plant's primary mission was research prototyping, testing, design engineering, fabrication, and primary assembly of military aircraft. The facilities at NWIRP included four plants used for assembly and prototype testing, a group of quality control laboratories, two warehouse complexes (north and south), a salvage storage area, water recharge basins, the Industrial Wastewater Treatment Plant, and several smaller support buildings.

The Navy's property originally totaled 109.5 acres and was formerly a Government-Owned Contractor-Operated (GOCO) facility that was operated by NG until September 1998. Prior to 2002, the NWIRP property was bordered on the north, west, and south by current or former NG facilities, and on the east by a residential neighborhood. By March 2008, approximately 100 acres of NWIRP property were transferred to Nassau County in three separate actions. The remaining 9 acres and access easements were retained by the Navy to continue remedial efforts at Installation Restoration (IR) Site 1 – Former Drum Marshalling Area and Site 4 – Former Underground Storage Tanks (Area of Concern [AOC] 22). A parcel of land connecting the two sites was also retained. Currently, the 9-acre parcel of NWIRP is bordered on the east by the residential neighborhood and on the north, south, and west by Nassau County property. Access to the NWIRP is from South Oyster Bay Road.

The Hot Spot Area was confirmed in 2011 by the presence of trichloroethene (TCE) in groundwater at concentrations greater than 1,000 parts per billion (ppb) in the Bethpage Water District Plant 6 wells. During the course of further investigation led by Resolution Consultants, VPB 142 and

associated wells RE108D1 and RE108D2 were installed in October 2013. The subsequent three consecutive quarterly groundwater sampling results established the boundaries of the present RE108 Hot Spot location. The hot spot plume is approximately 4500 feet (ft) long by 1990 ft wide as shown in Figure 2, and 500 to 800 feet deep.

Field Investigation Task Plan

Details of the field investigation are provided below. Performance of the field investigation will follow the Navy's Uniform Federal Policy Sampling and Analysis Plan (UFP SAP) Addendum – VPB and Recovery Well Installation and Sampling (Resolution Consultants, 2016).

Vertical Profile Boring and Recovery Well

The VPB will be installed to a depth of 760 ft below ground surface (bgs) and subsequently over drilled to install the recovery well. To prevent sloughing of the upper borehole, an auger rig will be used to over-drill the borehole to 11 inches in diameter and install a temporary, steel surface casing. The VPB will be advanced using mud rotary drilling techniques and the borehole will be 8 to 10 inches in diameter. Drilling mud will consist of potable water and polymer-free sodium bentonite or equivalent. Drilling mud will be contained and re-circulated in a baffled, high-capacity mud pan.

The well borehole will be constructed using reverse circulation drilling technique with the casings installed plumb and true to line. The anticipated finished depth of the well will be approximately 760 feet. A well construction Diagram is presented in Attachment A.

Soil Sampling during VPB Installation

Samples of the VPB drill cuttings will be logged by the geologist to construct a descriptive lithologic log of the entire bore hole.

Split spoon samples will be collected at five intervals across the recovery well's targeted 150 ft screen interval and submitted for grain size analysis. The results of these analyses will aid design of the well screen slot size and filter pack specification. An additional five split spoons may be collected to support the logging of other intervals.

Groundwater Sampling during VPB Installation

VPB groundwater samples will be collected every 50 ft for the first 200 ft of borehole depth. After the first 200 ft, groundwater samples will be collected every 20 ft until the boring terminates (see Table 1). Groundwater samples will be collected via Hydropunch™ which will be advanced ahead of

drill bit (and drilling mud) with a drive pipe. At the target depth, the drive pipe will be pulled up 1 to 2 feet to expose the screen and the water sample will be collected for VOC analysis using EPA Methods 8260 (see Table 2). During the collection of groundwater samples, field parameters will be measured by Resolution (pH temperature, specific conductivity, oxidation reduction potential, dissolved oxygen, depth to water flow rate and turbidity) as the water sample volume permits.

Geophysical Logging

Borehole geophysical logging will be conducted in the VPB following advancement to total depth. Once the drilling tools are removed from the borehole, a geophysical probe will be run down the borehole and back up. The VPB will be logged for natural gamma and single-point resistivity and the log traces inspected in the field for completeness prior to demobilization.

Air Monitoring

Resolution Consultants will perform air monitoring for site-related contaminants during drilling, well completion, and aquifer testing activities and will direct personnel as to the minimum level of PPE to be worn. One air sample per VPB will be collected to document ambient levels of VOCs in the work area air during installation of the VPB boring. A community air monitoring plan (CAMP) will also be followed during installation of the VPB and recovery well; details of the CAMP are provided in the Health and Safety Plan – Site 1 OU-2 Off Site TCE Groundwater Plume Investigation (Resolution Consultants, 2012) which follows procedures outlined by the New York State Department of Environmental Conservation (NYSDEC) DER 10.

At a minimum, personnel will work in modified Level D protection. Upgrading to Level C is not anticipated, but is specified in the Health and Safety Plan as a contingency for some portions of the work specified herein.

Recovery Well Installation

The VPB will be over-drilled and the recovery well (RE137) will be installed using reverse circulation drilling technique. The 12-inch well will be installed to conduct aquifer testing and is anticipated to be used as the final groundwater extraction system. A permanent 20-inch steel casing set in concrete will be used to support the upper borehole walls. The well will include a submersible or turbine pump with a pumping capacity of 400 to 700 gallons per minute (gpm). The details of well construction are provided in Attachment A.

The well screen will be installed to intercept contaminated groundwater at the depth of the TT101D2 monitoring well screen interval gravel zone (740 to 760 ft bgs) and will extend upward to

intercept shallower contaminated groundwater consistent with the screen interval for RE120D1 (630 to 650 ft bgs). The total depth for the well will be approximately 760 ft bgs and the screen interval is anticipated to extend for 150 ft (see Table 3; estimated to be 610 to 760 ft bgs). The recovery well riser will be carbon steel and the well screen will be stainless steel. Threaded bottom caps will be fitted to the bottom of the well. Well centralizers will be installed at an interval of approximately 40 to 50 ft. The well annulus and surface will be completed as follows:

- The filter pack will consist of #1 quartz sand installed using a tremie pipe and will be placed a minimum of 25-feet above the top of screen.

- A fine sand layer (finer than filter pack) will be placed in the annulus on top of the gravel pack in the same manner as the gravel pack, approximately 15 feet thick above the top of the gravel pack.

- A 4- to 8-foot thick bentonite seal will be installed above the fine sand layer. The annulus above the bentonite seal will be grouted with Volclay© (or similar) high-solids bentonite slurry. Both the bentonite seal and bentonite slurry will be installed using a tremie pipe. Wells are to be completed at the surface with a locking curb box, set in a 3 ft by 3 ft by 0.5 ft thick concrete pad. A layer of fine sand will be installed above the grout slurry and inside the curb box to allow for drainage of water from the curb box. The top of the well riser will be set approximately 6 inches below grade. Lockable gripper caps are to be installed on well riser tops.

Recovery Well Development

Following installation, the recovery well will be developed to evacuate drilling mud, silts and other fine-grained sediments which may have accumulated within the well and annulus during its installation. Well development will not commence until at least 24 hours after well installation completion. In compliance with NYSDEC policy, wells will be developed until turbidity is less than 50 nephelometric turbidity units (NTU). However, in some instances, the 50 NTU standard may not be attainable. If after a “best well development effort”, the 50 NTU standard cannot be attained and turbidity stabilizes (above the 50 NTU standard), the well will be considered developed. Special care will be taken to develop the well properly in order to ensure hydraulic connection between the recovery well and the aquifer. An alternate and equally effective method or variation may be used to develop the well if, required.

The recovery well will be developed using a combination of air lifting and pumping with a submersible pump. The recovery well will be developed at a rate similar to the pumping rate.

Water from the development will pass through a pre-filter and a granular activated carbon (GAC) unit treatment system prior to being discharged directly into Nassau County Sump #305. The process flow for the GAC unit treatment system is detailed in Attachment B. Prior to continuous development, the well will be pumped and one post-treatment aqueous grab sample will be collected and analyzed by a laboratory (24-hour turn around) to ensure effective removal of contaminants. The sample will be analyzed for Target Compound List (TCL) by a New York State and Navy Approved Laboratory using Environmental Protection Agency (EPA) Methods as per the following:

Analytes	**EPA Method of Testing**
Volatile Organic Compounds (VOCs)	8260C
Semi Volatile Organic Compounds (VOCs)	8270C
Total Suspended Solids (TSS)	SM2540D
pH	SM450HB-pH, E150
Biological Oxygen Demand (BOD)	SM5210.8
Total Dissolved Solids (TDS)	SM2540C
Total Kjehldahl Nitrogen (TKN)	E351
Ammonia	E350.1
TAL Metals	SW846
Dissolved Metals	SW6020/SW7470

Step Test and Constant Rate Testing of the Recovery Well

The planned aquifer testing will include a step drawdown test and a constant rate pumping test using the newly completed recovery well. A step test will be performed to evaluate the specific capacity and transmissivity (T) of the well, and to evaluate well efficiency. Three consecutive pumping steps are planned, each lasting approximately 6 hours; pumping rates of 100, 200, and 300 gpm are anticipated. Water from the step test will pass through a pre-filter and a GAC unit treatment system prior to being discharged directly into Nassau County Sump #305. Post treatment water samples for discharge permit requirements will be collected at the end of each pumping step and analyzed for TCL, VOCs, SVOC, iron (total and dissolved), manganese (total and dissolved), TSS, pH, BOD, TDS, TKN, and Ammonia as detailed in the UFP SAP Addendum VPB and Recovery Well Installation and Sampling (Resolution 2016). An electronic data logger will be installed in the pumped recovery well to record the water levels during each pumping step. In addition, hand measurements will be collected periodically. Local weather data (i.e., temperature, precipitation, and barometric pressure) will be tracked during the step test. The water level plot for the pumping

well will be examined in real time to adjust the pumping steps, if needed, and to establish test completion.

A constant rate pumping test will be conducted, following the step test, to derive estimates of the local aquifer hydraulic parameters T and storativity (S). The pumping rate for the constant rate test will be determined based on the step drawdown testing, but is expected to be between 400 to 700 gpm. The constant-rate test is anticipated to run continuously for 2 to 3 days. Water from the constant rate pumping will pass through a pre-filter and a GAC unit treatment system prior to being discharged directly into Nassau County Sump #305. Pre- and post-treatment water samples will be collected every 6 hours and analyzed for TCL, VOCs, SVOCs, iron, and manganese to assess changes in the recovered groundwater and to comply with discharge permit requirements. Electronic data loggers will be installed in 23 nearby monitoring wells to record the water levels during the constant rate pumping test. The wells to be monitored are shown on Figure 4 and listed in Table 4. Local weather data (i.e., temperature, precipitation, and barometric pressure) will be tracked during the constant rate test.

Alternative Aquifer Test Methodology

The planned methodology for conducting the aquifer testing is considered a traditional approach. However, in this case, there is a possibility of the recovery well being “short-circuited”. The water pumped from the recovery well is anticipated to be discharged into the stormwater basin #305, located approximately 160 feet from the recovery well. Because of the proximity of the discharge to the recovery well, the drawdown measured in the recovery well over time may be offset by the water being discharged to the basin (i.e., recharge) that infiltrates and enters the capture zone of the recovery well. This short-circuiting should be detected by noting a decrease or stabilization in drawdown in the recovery well (compared to prior pumping tests) concurrently as the discharge water passes through the vadose zone and enters the aquife. Studies performed by the USGS suggest that the time lag from start of rainfall to measurable impacts to shallow groundwater ranges between 2 to 8 hours (Seaburn, 1970, Preliminary Results of Hydrologic Studies at Two Recharge Basins on Long Island New York). The possibility of short-circuiting will be evaluated through collection of water levels during well development, and will be considered present when early drawdown recovery or stabilization is noted in the recovery well despite active pumping.

Should evidence of short-circuiting be measured, an alternative method of aquifer testing will be employed. This alternative method is in effect a “shock” testing of the aquifer in which the recovery well is used to stress the aquifer at the same discharge rates as proposed above for the step tests and constant rate test, but with a shorter duration. The duration of each test will be equivalent to

the time required for the discharge water to impact the drawdown measured in the recovery well. The experience in the Magothy is that the aquifer responds quickly to pumping stress and reaches equilibrium quickly. Therefore this short-term stress approach will meet the objectives of establishing an efficiency curve, determining if the recovery well will yield 700 gpm, and estimating a capture zone of the well. During the "shock" testing, monitoring of water levels in the recovery well and surrounding wells will be performed as planned with the traditional method, and active pumping will terminate when recharge effects from infiltration of discharge water are measured in the recovery well.

Investigation Derived Waste

Investigation derived waste (IDW) accumulated during drilling activities will be collected, containerized, accumulated at NWIRP Bethpage, and disposed of off-site. Soil and mud will be transported to the staging area at 999 South Oyster Bay Rd and transferred to either roll offs for solid waste or to a frac tank for liquids. Development and purge water will be run through a GAC unit onsite and discharged into Nassau County Sump #305. IDW activities will be consistent with the UFP SAP Addendum – VPB and Monitoring Well Installation and Sampling (Resolution Consultants, November 2013).

Decontamination

The decontamination pad at NWIRP Bethpage will be used for the collection of all decontamination-generated fluids. All decontamination fluids will be collected and staged for characterization and subsequent disposal. All decontamination activities will be consistent with the UFP SAP Addendum – VPB and Monitoring Well Installation and Sampling (Resolution Consultants, November 2013).

Surveying

The location of the VPB and newly installed well will be surveyed by a New York State licensed surveyor. All surveying activities will be consistent with the UFP SAP Addendum – VPB and Monitoring Well Installation and Sampling (Resolution Consultants, November 2013).

Data Validation

Data validation will be conducted for the groundwater and air samples. Data will be reviewed and qualified in accordance with the requirements of the EPA National Functional Guidelines, modified as appropriate for the Department of Defense (DoD) Quality Systems Manual (QSM) version 4.2 and method-specific requirements. Validation will consist of reviewing the associated Quality Assurance/Quality Control (QA/QC) samples and measurement performance indicators as presented

on the summary forms provided in the laboratory deliverable, and will not include confirmation of calculations or review of raw data. The results of the data validation will be documented in reports which will detail any issues impacting the data quality along with qualifications affecting data bias and usability. All data validation activities will be consistent with the UFP SAP Addendum – VPB and Recovery Well Installation and Sampling (Resolution Consultants, August 2016)

Reporting and Schedule

Form 1 results from the analytical lab will be provided as soon as the data are available. Subsequent summary reports including VPB and recovery well installation details, and sampling results will be developed to provide documentation of this investigation. Documentation required to support this project will consist of the following items:

- Scanned copies of the field book during VPB and well installation. This may be presented as a separate deliverable.
- Updated cross sections based on the boring log
- Field copies of the boring log for each boring
- Paired graphic of VPB VOC concentration in groundwater with gamma log
- Groundwater, soil, and air sample log sheets
- Well completion form
- Well development record
- Initial aquifer test results
- Map identifying newly installed recovery well.

Resolution Consultants will prepare an aquifer test report to document the results of the step and constant rate tests and to present evaluation of the capture zone for the new recovery well. Pumping test results, analytical tables, boring and well completion logs, and figures and maps will be included in the report, as appropriate. The report will summarize groundwater data and include a description of the monitoring and sampling program, data analysis, and evaluation of the aquifer parameters and the hydraulic capture zone. The project schedule is presented as Table 5.

Tables

Table 1
Vertical Profile Boring Groundwater Sampling Program
Page 1 of 1

Boring Number	Drilling Method	Total Depth (feet)[1]	Depth (feet)	Split Spoon Sampling	Groundwater Sampling	Gamma Log	Air Sample [2]
VPB 171	MR	~760	50 to 200	0	50, 100, 150, and 200 feet (4 samples)	Yes	Yes
			200 to 760	Up to 10	20-foot intervals (28 samples)		

1. Total depth will be approximately 760 feet below ground surface.
2. Work area summa canister (6 to 8 hours).

VPB: Vertical Profile Boring
MR: Mud Rotary

Table 2
Vertical Profile Boring Analytical Summary
Page 1 of 1

Location	Sample ID	Matrix	Number of Samples		
			VOCs – Quick Turn (1)	Grain size(2)	VOCs – TO 15(3)
VPB171	VPB171-Soil- MMDDYY XX-XX	Soil	--	~ 5	--
	VPB171-GW- MMDDYY XX-XX	Groundwater	~32-	--	--
	VPB171-AIR-MMDDYY	Air	--	--	1 per VPB

Notes:
1. 24-hour results from local laboratory via method SW846 8260C or equivalent method.
2. 21-day results from Navy-approved laboratory via ASTM422.
3. 21-day results from Navy-approved laboratory via TO-15.

VOCs: Volatile organic compounds
MMDDYY: Sample date in month, day, and year. For example, April 1, 2016 would be 040116.
XX-XX: Bottom of sample interval, in feet. For example, a groundwater sample collected in VPB-162 at 100 to 102 feet below ground surface on April 1, 2016 would be VPB162-GW-0401165(100-102).

Table 3
Proposed Recovery Well Installation Summary
Page 1 of 1

Location	VPB	Screened Interval Feet	Total Depth Feet	Height of Filter Pack Sand Feet	Height of Fine Sand Feet
RE137	VPB RE108	150	760*	25 feet above screened interval	15 feet above sand

Note:
* – Estimated, final depth to be determined.

Table 4
Wells with Data Loggers
Construction Summary
Page 1 of 1

Well	Total Depth (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Mid-screen (ft bgs)	Sump Length (ft)	VPB affiliation
RE103D1	645	625	640	630	5	VPB137
RE103D2	673	653	673	663	0	
RE103D3	735	715	730	720	5	
RE104D2	735	710	730	720	5	VPB138
RE105D1	555	530	550	540	5	VPB139
RE105D2	755	730	750	740	5	
RE107D1	530	505	525	515	5	VPB141
RE107D2	585	560	580	570	5	
RE107D3	670	645	665	655	5	
RE108D2	655	630	650	640	5	VPB138
RE120D1	655	630	650	640	5	VPB 154
RE120D2	713	690	710	700	3	
RE120D3	765	740	760	750	5	
RE121D1	575	550	570	560	5	VPB155
RE121D2	755	730	750	740	5	
RE122D1	545	520	540	530	5	VPB156
RE122D2	615	590	610	600	5	
RE122D3	740	715	735	725	5	
RE126D1	520	500	520	725	5	VPB160
RE126D2	850	555	575	725	5	
RE126D3	665	640	660	725	5	
TT101D1	595	570	590	580	5	VPB 129
TT101D2	765	740	760	750	5	

Table 5
Project Schedule
Page 1 of 1

Task Name	Duration	Start	Finish
Overall Project Schedule – September 22, 2016	267 days	Fri 7/1/16	Mon 7/10/17
Work Plan	63 days	Fri 7/1/16	Tue 9/27/16
Draft Work Plan to Navy	16 days	Fri 7/1/16	Fri 7/22/16
Navy Comments	30 days	Fri 7/22/16	Thu 9/1/16
Final Work Plan	20 days	Fri 8/19/16	Wed 9/21/16
NYSDEC Approval	20 days	Thu 9/22/16	Wed 10/19/16
NYSDEC Withdrawal Permit	45 days	Mon 7/25/16	Fri 9/23/16
NYSDEC Discharge Permit	45 days	Mon 7/25/16	Fri 9/23/16
Nassau County POTW Permit	45 days	Mon 7/25/16	Fri 9/23/16
Drilling	126 days	Fri 7/1/16	Fri 12/23/16
Development of SOWs	21 days	Fri 7/1/16	Fri 7/29/16
Evaluation and Award of SOWs	10 days	Mon 9/5/16	Fri 9/16/16
Mobilization/Fence Modification/GAC/Datalogger deployment	7 days	Thu 10/20/16	Fri 10/28/16
VPB Boring installation	20 days	Mon 10/31/16	Fri 11/25/16
Gamma and resistivity logging	1 day	Fri 11/25/16	Fri 11/25/16
Well installation	10 days	Mon 11/28/16	Fri 12/9/16
Well development	5 days	Mon 12/12/16	Fri 12/16/16
Demobilization	5 days	Mon 12/19/16	Fri 12/23/16
Aquifer test	5 days	Mon 1/9/17	Fri 1/13/17
Step test	1 day	Mon 1/9/17	Mon 1/9/17
Steady State Test	3 days	Wed 1/11/17	Fri 1/13/17
Data analysis and Reporting	152 days	Fri 12/9/16	Fri 7/7/17
Data reduction and parameter modeling	15 days	Mon 1/9/17	Fri 1/27/17
Capture zone calculation	10 days	Mon 1/30/17	Fri 2/10/17
Internal Draft report	30 days	Mon 2/13/17	Fri 3/24/17
Navy Review	30 days	Mon 3/27/17	Fri 5/5/17
Draft Report	15 days	Mon 5/8/17	Fri 5/26/17
Final report	30 days	Mon 5/30/17	Fri 7/7/17

Definitions:

UFP SAP = Uniform Federal Policy Sampling and Analysis Plan
SOW = Scope of Work
GAC = Granular Activated Carbon
NYSDEC = New York State Department of Environmental Conservation
POTW = Publicly Owned Treatment Works

Figures

F:\Projects\Navy\Bethpage WXE0817.0 Deliverables\7.2 CADD\GIS files\Bethpage\MAP DOCS\MXD\MISC\Location Maps\RW figs\F1 Site Loc 2016 07 13 R1.mxd

Inset: Proposed Recovery Well Location

RE105D1
RE105D2
VPB139
VPB154
RE120D1
RE120D2
RE120D3
RE137
VPB171
VPB76
VPB129
TT101D
TT101D1
TT101D2
VPB155
RE121D1
RE121D2
0 375 750 Feet

Former Naval Weapons Industrial Reserve Plant

Former Northrop Grumman Site

RE137
VPB171

Bethpage

Plainedge

South Farmingdale

Levittown

North Massapequa

North Wantagh

Legend

- Monitoring Well
- Vertical Profile Boring
- Vertical Profile Boring - Proposed
- Water Supply Well
- Extraction Well
- Extraction Well - Proposed

0 750 1,500 3,000 Feet

NAVFAC

SITE MAP
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT
BETHPAGE, NEW YORK

CONTRACT NUMBER	CTO NUMBER
N62470-11-D8013	WE80
APPROVED BY: PS	DATE: 9/22/2016
APPROVED BY: —	DATE: —
FIGURE NO.: 1	REV: 0

\\USCNR1VFP001\Projects\Navy\Bethpage WXE08\7.0_Deliverables\7.2_CADDGIS_files\Bethpage\MAP DOCS\MXD\MISC\Location Maps\RW figs\F2 BP_TCE_DEEP_2016 07 08.mxd

DRAFT

N

Hicksville

Bethpage

Old Bethpage

South Farmingdale

Plainedge

Levittown

North Massapequa

MW-77D2: 22 2013
MW-53D2: 910 2013
MW-86D2: 320 2013
MW-85D2: 44 2013
MW-89D2: 2.1 J 2013
VPB134: 2400 2012
VPB135: 35 2012
VPB136: 15 2012
RW-1: 190 2013
MW-67S: 3.6 J 2013
MW-67D: 14 2013
MW-68S: 0.45 J 2013
MW-68D: 66 2013
WELL 3: 557 2015
MW-3-1: 67.6 2015
WELL 1: 852 2015
GM-15D: 0.34 J 2015
GM-15D2: 9.7 2015
MW-111-4: 2800 2013
WELL 19: 152 2015
VPB157: 130 2015
GM-73D: 11.1 2015
GM-73D2: 46.7 2015
GM-73D3: 1.7 2015
VPB144: 7600 2013
GM-33D2: 16.6 2015
GM-39D2 (B): 43.9 2015
WELL 17: 178 2015
RE123D1: 6.6 2016
RE123D2: 1.9 2016
RE123D3: ND 2016
WELL 18: 61.3 2015
GM-74D: 1 2015
GM-74D2: 7.2 2015
GM-74D3: 6.2 2015
VPB140: 120 2014
VPB160: 520 J 2015
GM-37D2: 2.3 2015
VPB141: 280 2015
RE107D1: 17 2015
RE107D2: 140 2015
RE107D3: 0.36 J 2015
GM-75D2: 23.9 2015
GM-71D2: 11 2015
GM-70D2: 10.3 2015
VPB156: 8200 2014
RE122D1: 610 2016
RE122D2: 5300 2016
RE122D3: 2.1 2016
VPB142: 740 J 2013
RE108D1: 120 2016
RE108D2: 3800 2016
GM-35D2: 78.9 2015
VPB138: 90 2013
RE104D1: 100 2016
RE104D2: 8.4 2016
RE104D3: ND 2016
MW-116-5: 1900 2013
MW-117-5: 5.1 2013
GM-36D2: 2.6 2015
RW3-MW3: 410 2013
RW3-MW4: 1.8 2013
RW3-MW1: 49 2013
RW3-MW2: 140 2013
RW2-MW1: 14 2013
RW1-MW3: 1.7 2013
VPB137: 1800 2013
RE103D1: 1200 2016
RE103D2: 860 2016
RE103D3: 520 2016
GM-34D: 403 D 2015
GM-34D2: 148 2015
RW-3: 190 2013
GM-38D: 175 J 2015
GM-38D2: 29.8 2015
RW1-MW1: 78 2013
RW1-MW2: 64 2013
MW-118-5: 0.33 J 2013
VPB139: 1200 2013
RE105D1: 130 2016
RE105D2: 1800 2016
VPB159: 640 2015
VPB154: 1800 2014
RE120D1: 1200 2016
RE120D2: 780 2016
RE120D3: 55 2016
VPB165: 140 2015
TT101D: 67 2016
TT101D1: 180 2016
TT101D2: 590 2016
VPB155: 45 J 2015
RE121D1: 29 2015
RE121D2: 480 2015
BPOW1-4: ND 2015
BPOW1-5: ND 2015
BPOW1-6: ND 2015
VPB158: 140 2015
VPB150: ND 2014
BPOW1-2: 0.23 J 2015
BPOW1-3: ND 2015
VPB148: 520 2014
RE114D1: 370 2015
RE114D2: 70 2015
RE114D3: 43 2015
VPB149: 100 2014
BPOW4-2R: 1.5 2015
BPOW4-1R: 1 2015
VPB131: 61 2012
BPOW2-1: ND 2015
BPOW2-2: ND 2015
BPOW2-3: ND 2015
BPOW3-3: ND 2015
BPOW3-4: 80.7 2015
BPOW3-1: ND 2015
BPOW3-2: ND 2015
BPOW5-1: ND 2015
BPOW5-2: ND 2015
BPOW5-3: ND 2015
VPB152: ND 2014
RE118D1: ND 2015
BPOW5-5: ND 2015
BPOW5-6: ND 2015
VPB153: 2.8 J 2014
RE119D1: ND 2015
BPOW5-7: ND 2015
RE117D1: 9.4 2015
RE117D2: ND 2015
BPOW5-4: ND 2015
VPB151: 1.6 J 2014
VPB163: ND 2016
TT102D: ND 2015
TT102D2: ND 2015
BPOW6-3: ND 2015
BPOW6-4: ND 2015
BPOW6-5: ND 2015
BPOW6-6: ND 2015
VPB146: ND 2014
VPB147: 0.45 J 2014
BPOW6-1: ND 2015
BPOW6-2: ND 2015
VPB145: ND 2014

1000
1000

Cherry Ave
Plainview Rd
Sunset Ave
S Broadway
Bay Rd
Broadway
State Hwy 135
Powell Ave
Central Ave
Hicksville Rd
Wantagh Ave
Union Ave
Stewart Ave
Fulton St
Merritts Rd
Hempstead Tpke
Miller Pl
Boundary Ave
Access Rd
Quaker Meeting House Rd
Bethpage State Pkwy
Seamans Neck Rd
Southern State Pkwy
N Linden St
N Jerusalem

Legend

	ND-5	5-50	50-500	500+ µg/L
Monitoring Well				
Vertical Profile Boring				
Water Supply Well				
Extraction Well				

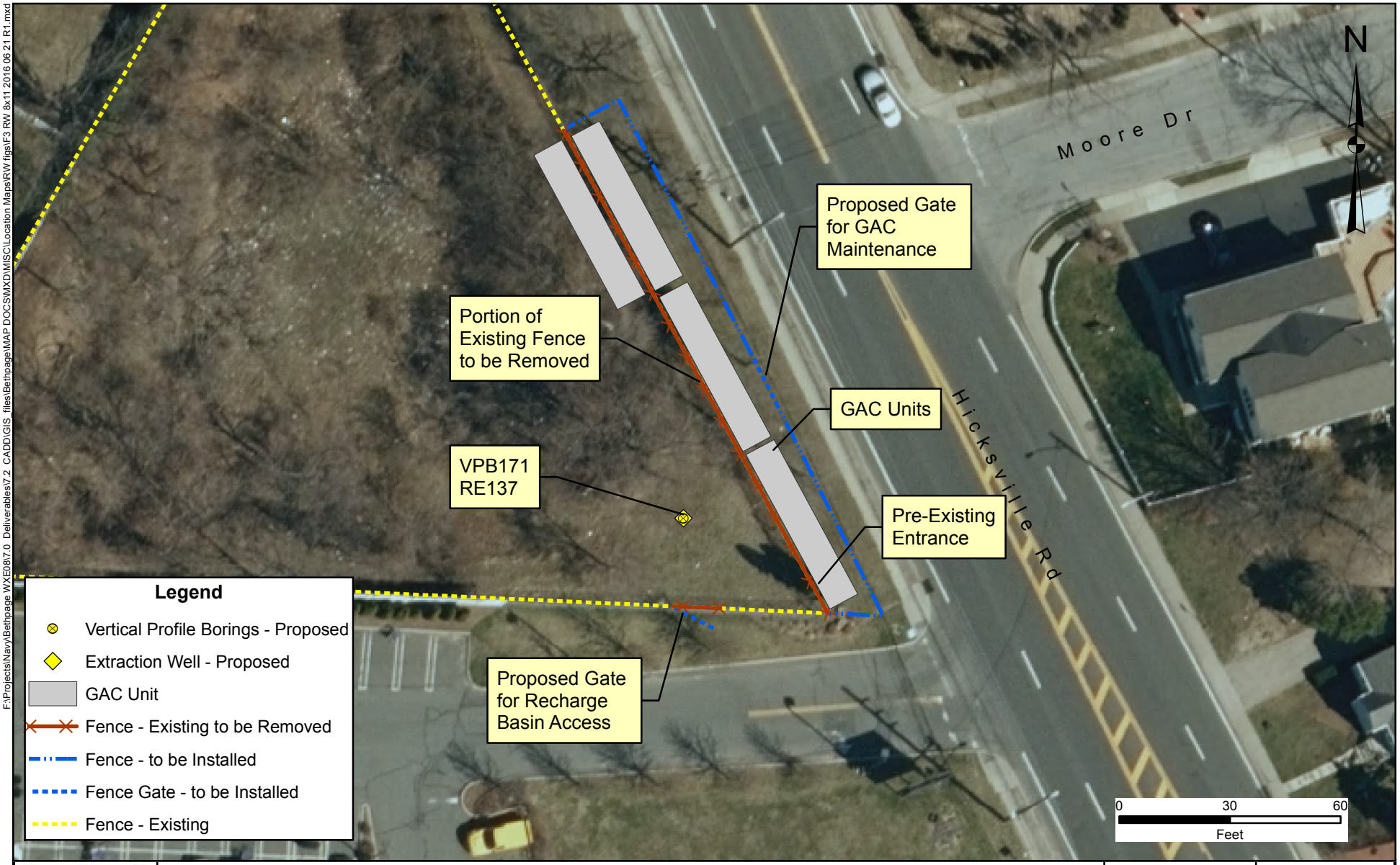
0 750 1,500 3,000 Feet

Notes:
1. Posted TCE values (µg/L) represent current data from monitoring wells and vertical profile borings. Results shown are for samples collected at depths greater than 300 feet below ground surface. Where multiple hydropunch samples were collected below 300 feet at vertical profile borings, the highest concentration is posted.

NAVFAC

AREA OF STUDY
OU2 GROUNDWATER
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT
BETHPAGE, NEW YORK

CONTRACT NUMBER	CTO NUMBER
N62470-11-D8013	WE80
APPROVED BY: PS	DATE: 7/21/2016
APPROVED BY: —	DATE: —
FIGURE NO.: 2	REV: 0



F:\Projects\Navy\Bethpage WXE0817.0 Deliverables\7.2 CADD\GIS files\Bethpage\MAP DOCS\MXD\MISC\Location Maps\RW figs\F3 RW 8x11 2016 06 21 R1.mxd

NAVFAC

RECOVERY WELL LOCATION
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT
BETHPAGE, NEW YORK

CONTRACT NUMBER	CTO NUMBER
N62470-11-D8013	WE80
APPROVED BY: PS	DATE: 9/22/2016
APPROVED BY: —	DATE: —
FIGURE NO.: 3	REV: 0

F:\Projects\Navy\Bethpage WXE0817.0 Deliverables\7.2 CADD\GIS_files\Bethpage\MAP DOCS\MXD\MISC\Location Maps\RW figs\F4 GW Samples 2016 06 13.mxd

Former Northrop Grumman Site

RE107D1 RE107D2 RE107D3

RE122D1 RE122D2 RE122D3

RE126D1 RE126D2 RE126D3

RE108D2

RE103D1 RE103D2 RE103D3

RE104D2

RE105D1 RE105D2

RE120D1 RE120D2 RE120D3

TT101D1 TT101D2

RE121D1 RE121D2

Old Bethpage

Bethpage

Plainedge

Levittown

North Wantagh

Northern State Pkwy

Southern State Pkwy

Hempstead Tpke

Powell Ave

Broadway

Plainview Rd

Central Ave

Access Rd

Hicksville Rd

Stewart Ave

Wantagh Ave

Seamans Neck Rd

Union Ave

Miller Pl

Boundary Ave

N Jerusalem Rd

State Hwy 135

Bethpage State Pkwy

MW-2GF, MW-5, MW-6, MW-4, MW-2, MW-3, MW-111-4, MW-3R, MW-116-5, MW-117-5, MW-118-5

GM-18S, GM-18I, GM-18D, GM-19S, GM-19I, GM-15S, GM-15I, GM-15D, GM-33D2, GM-39D, GM-39D2, GM-74I, GM-74D, GM-74D2, GM-74D3, GM-78S, GM-78I, GM-20I, GM-20D, GM-21S, GM-21I, GM-21D, GM-79I, GM-79D, GM-75D2, GM-37D, GM-37D2, GM-71D2, GM-70D2, GM-36D2, GM-36D, GM-34D, GM-34D2, GM-38D, GM-38D2

N-10631, N-10600, N-9921, N-10624, N-10627, N-10633, N-10628, N-10634, N-10821

WELL 17, WELL 18, WELL 19

RE123D1, RE123D2, RE123D3

VPB144, VPB39, VPB73, VPB157, VPB110R, VPB110, VPB140, VPB160, VPB143, VPB104, VPB170, VPB156, VPB121, VPB142, VPB117, VPB138, VPB123, VPB137, VPB168, VPB159, VPB154, VPB165, VPB122, VPB171, VPB76, VPB129, VPB155, VPB166, VPB158, VPB148, VPB46, VPB149, VPB44, VPB162, VPB131, VPB50, VPB128, VPB126, VPB130, VPB125, VPB164, VPB163, VPB151, VPB133, VPB167, VPB146, VPB147, VPB145, VPB48, VPB38, VPB118, VPB47, VPB40, VPB119, VPB77, VPB127, VPB43, VPB150, VPB45, VPB51, VPB139

RE137

RE104D1, RE104D3

RE114D1, RE114D2, RE114D3

RE129D1, RE129D2

RE130D1, RE130D2

RE131D1, RE131D2, RE131D3

RE133D1, RE133D2

RE118D1, RE117D1, RE117D2, RE119D1

RE127D1, RE127D2

TT101D, TT102D, TT102D2

BPOW1-4, BPOW1-5, BPOW1-6, BPOW1-1, BPOW1-2, BPOW1-3, BPOW2-1, BPOW2-2, BPOW2-3, BPOW3-3, BPOW3-4, BPOW3-1, BPOW3-2, BPOW4-2R, BPOW4-1R, BPOW5-4, BPOW5-1, BPOW5-2, BPOW5-3, BPOW5-5, BPOW5-6, BPOW5-7, BPOW6-3, BPOW6-4, BPOW6-5, BPOW6-6, BPOW6-1, BPOW6-2

BWD-8941, BWD-3876, BWD-6915, BWD-6916, BWD-8004

RW3-MW3, RW3-MW4, RW3-MW1, RW3-MW2, RW3-, RW2-MW1, RW1-MW3, RW1-MW1, RW1-MW2, RW1-1

LWD 8279, LWD 7525, LWD-5303

ANY-8480, ANY-9338

SFWD-6150, SFWD N-8664, SFWD N-8665

0 750 1,500 3,000 Feet

Note:
Electronic data loggers will be installed in the 23 monitoring wells identified to record the water levels during the constant rate pumping test.

Legend

- Monitoring Well - Sampled
- Monitoring Well - Unsampled
- Vertical Profile Boring
- Water Supply Well
- Extraction Well
- Vertical Profile Borings - Proposed
- Extraction Well - Proposed

NAVFAC

WELL MONITORING PROGRAM
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT
BETHPAGE, NEW YORK

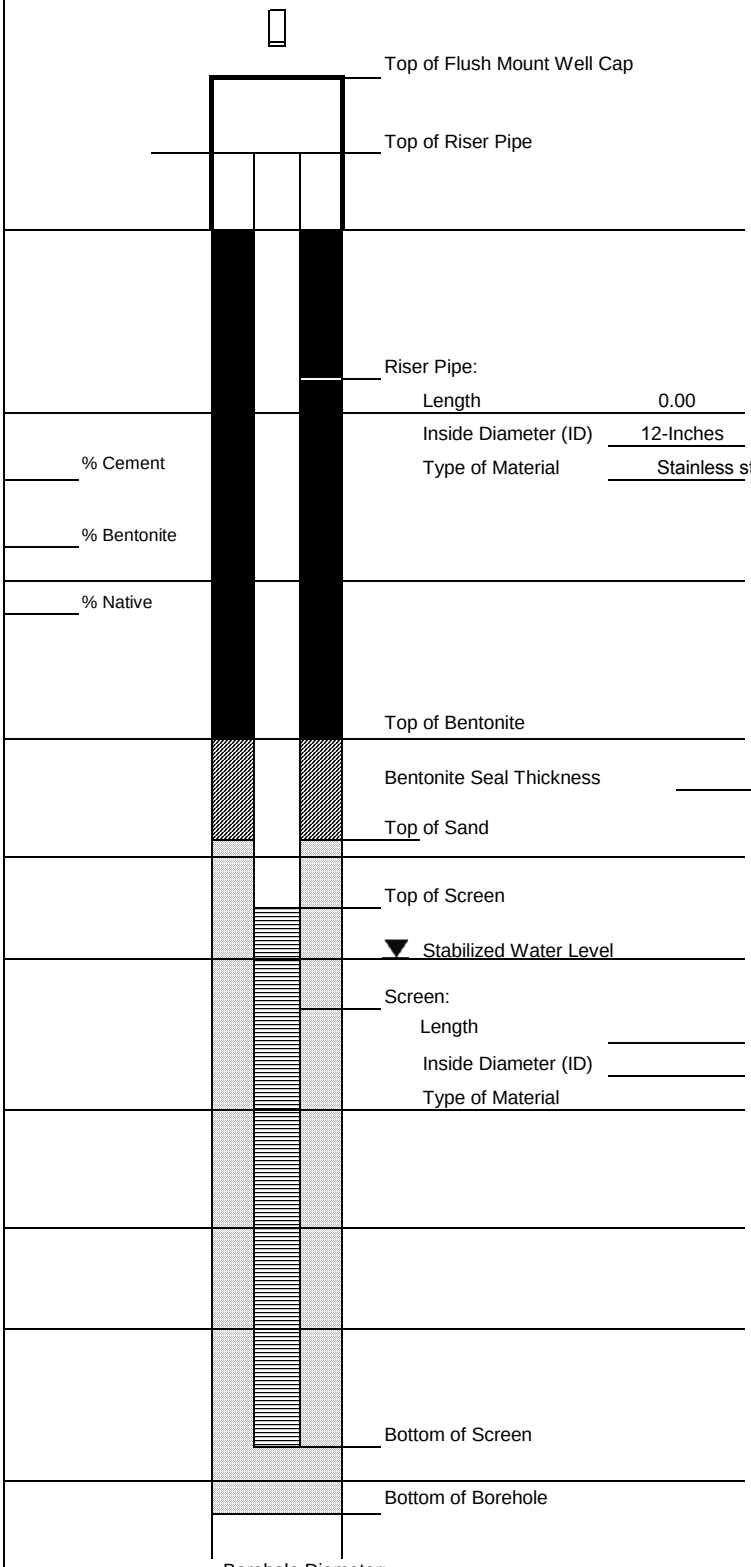
CONTRACT NUMBER	CTO NUMBER
N62470-11-D8013	WE80
APPROVED BY: EV	DATE: 9/22/2016
APPROVED BY: —	DATE: —
FIGURE NO.: 4	REV: 0

Attachment A

Well Construction Detail

RESOLUTION CONSULTANTS	*Client:*	***WELL ID:***
	Project Number:	
	Site Location:	*Date Installed:*
	Well Location:	*Inspector:*
	Method:	*Contractor:*

MONITORING WELL CONSTRUCTION DETAIL



	Depth from G.S. (feet)	Elevation(feet)
Top of Flush Mount Well Cap	0.0	
Top of Riser Pipe	0.000	
Riser Pipe:		
Length 0.00		
Inside Diameter (ID) 12-Inches		
Type of Material Stainless steel		
% Cement		
% Bentonite		
% Native		
Top of Bentonite		
Bentonite Seal Thickness		
Top of Sand		
Top of Screen		
▼ Stabilized Water Level		0
Screen:		
Length		
Inside Diameter (ID)		
Type of Material		
Bottom of Screen		
Bottom of Borehole		

Borehole Diameter: _____

_____ _____

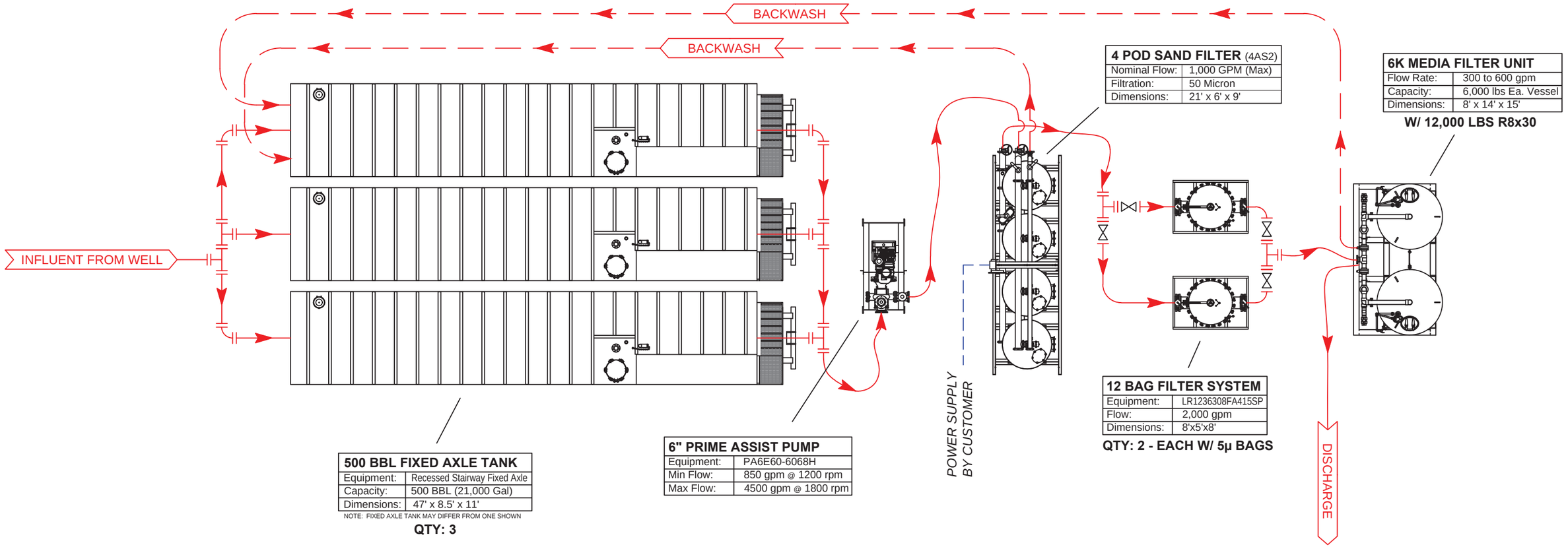
Date

Attachment B

Granular Activate Carbon Treatment System

CONFIDENTIAL

PROPRIETARY



500 BBL FIXED AXLE TANK	
Equipment:	Recessed Stairway Fixed Axle
Capacity:	500 BBL (21,000 Gal)
Dimensions:	47' x 8.5' x 11'

NOTE: FIXED AXLE TANK MAY DIFFER FROM ONE SHOWN

QTY: 3

6" PRIME ASSIST PUMP	
Equipment:	PA6E60-6068H
Min Flow:	850 gpm @ 1200 rpm
Max Flow:	4500 gpm @ 1800 rpm

4 POD SAND FILTER (4AS2)	
Nominal Flow:	1,000 GPM (Max)
Filtration:	50 Micron
Dimensions:	21' x 6' x 9'

12 BAG FILTER SYSTEM	
Equipment:	LR1236308FA415SP
Flow:	2,000 gpm
Dimensions:	8'x5'x8'

QTY: 2 - EACH W/ 5µ BAGS

6K MEDIA FILTER UNIT	
Flow Rate:	300 to 600 gpm
Capacity:	6,000 lbs Ea. Vessel
Dimensions:	8' x 14' x 15'

W/ 12,000 LBS R8x30

BAKERCORP
3020 OLD RANCH PARKWAY
SEAL BEACH, CA 90740-2751

TITLE: **BETHPAGE, NY - 700 GPM TCE REMOVAL**
PROCESS FLOW DIAGRAM

SHEET SIZE: B 11" x 17"	MATERIAL:	CUSTOMER: AECOM			BRANCH: NEW
	FINISH:	DWG BY: M. BROOKS	DATE: 07-19-16	SCALE: -	SHEET: 1 OF: 1
		CKD BY: C. VILLELLA	DATE: 07-19-16	DWG No: **SKF2574**	REV: -

PRODUCT DATA SHEET

January, 2007

YARDNEY 4-POD SAND FILTER

(Equip. # SFL21988 and earlier)

GENERAL INFORMATION

Skid mounted high rate automatic backwashing sand media filter (4 tanks (pods)) designed for general-purpose water filtration of organic and inorganic solids (Yardney Model # IL5424-4AS2). Powered by 110 V external power supply, or battery with solar cell recharge for remote operation.

WEIGHTS AND MEASURES

» Capacity:	504 – 756 gpm (Normal flow range) 1000 gpm (Peak flow)
» Design Press:	80 psi maximum
» Temperature:	Limit to ambient. Consult BakerCorp if temperature exceeds 100 degrees.
» Filtration:	To 50 microns
» Height:	8'-11" (overall)
» Width :	6'-3"
» Length:	20'-1"
» Weight:	6,326 lbs. – equipment only 14,500 lbs. – media only 28,000 lbs. - operational
» Backflush:	240 gpm, automatic

OPERATING REQUIREMENTS

» Compressed Air:	5 cfm minimum at 60 psi **[Note: external air supply required]**
» Sand Media:	Crushed silica, 0.47MM (#80 grit)
» Gravel Media:	#3 crushed rock, ½" x ¾"
» Input Power:	Selectable input power of customer supplied 110 V AC, or 12V DC from a unit mounted solar package.
» Output Power:	12V DC

FEATURES

» System Controller:	Automatic Filter Controller. Flush activation based on elapsed time and/or pressure differential.
» Piping:	Inlet & outlet pipe is 6" A53B, 3/16" wall; weld fittings are A234; flanges are A106. Backflush piping is 4" schedule 40 PVC.
» Solar Panel:	Uni-Solar Model UA-5 (5 watts) module.

FEATURES – con't

» Press. Gauge:	2" face, ¼" NPT bottom connection, stainless steel case, plexiglass lens, brass bourdon tube, 0-100 psi range.
» Flowmeter:	Six-inch propeller type meter, AWWA C704-92 compliant. Instantaneous flowrate indicator and six-digit totalizer. Accuracy is ±2% of reading. Repeatability of 0.25%. Rated at 90-1200 gpm, 150 psi, 160°F. Tube: epoxy-coated carbon steel; Impeller: high-impact plastic.
» Butterfly Valves:	Effluent / Influent: 6" with cast iron body (epoxy coated), EPDM seat, 304 SS stem and aluminum bronze disc. Tank Isolation: 4" grooved ends, EPDM disc coating
» Ball Valves:	Four-inch, bronze body and brass ball; seat is carbon/glass-filled PTFE. ¼ turn open or close.
» Solenoid Valve:	12V DC, normally closed type 7121V (energizing opens valve).
» Differential Press. Switch:	0-30 psid. Two-inch dial, plated steel case, ±3% accuracy.
» Air / Vacuum Release Valve:	2" Bernard Model 4415 valve, mounted on backwash, influent and effluent lines
» Battery:	Sealed rechargeable lead-acid, 12V, NP2.6-12
» Battery Charger:	Power-Sonic Model PSC-12500A, 12 volts.
» Tubing:	Pressurized – ¼" 304 ss w/ Hoke fittings; Drain - ¼" polypropylene; Vent – schedule 80 PVC

SURFACE DETAILS

» Interior Coating:	3M Skotchkote 134
» Exterior Coating:	High Gloss Polyurethane

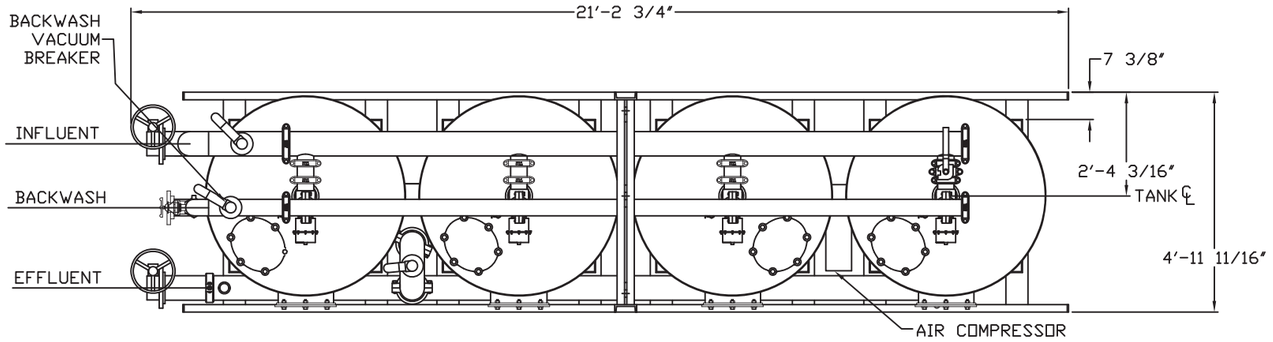
TESTS/CERTIFICATIONS

» Tests Performed:	OEM pressure tested. BakerCorp performs scheduled QMS inspections.

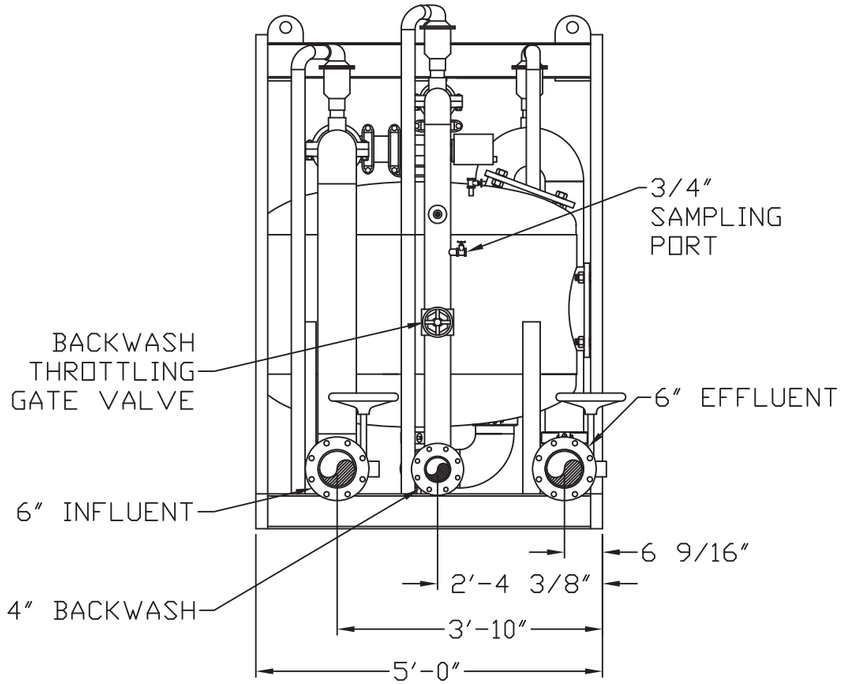
BAKERCORP™

NOTES:

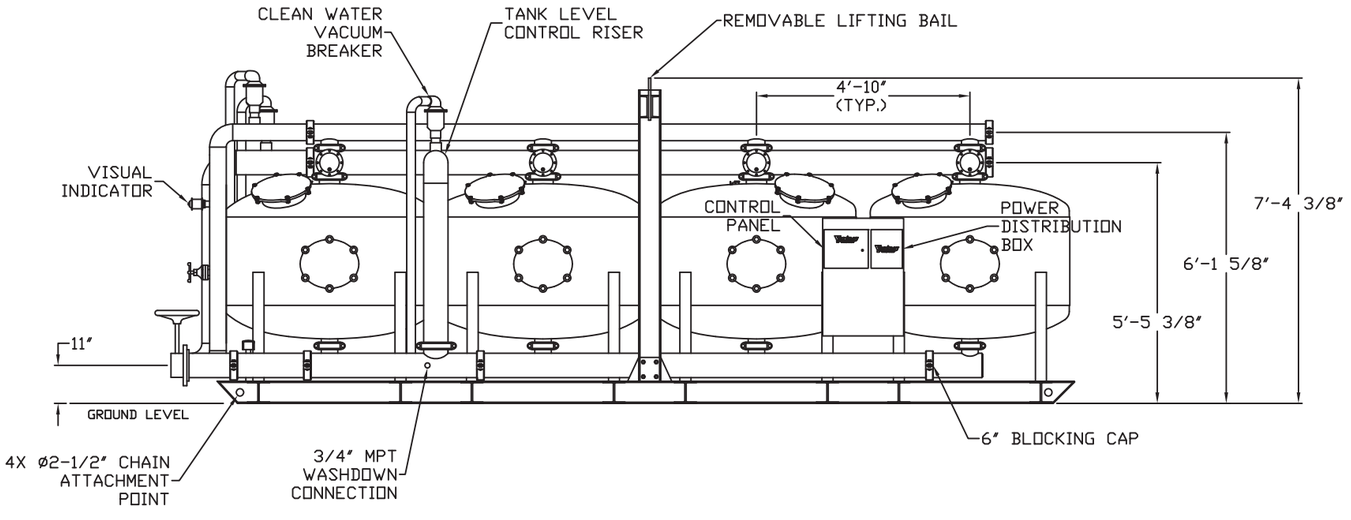
1. This drawing is a baseline representation for this size skid. Variations between this drawing and the actual equipment in the field can may exist, primarily with appurtenance locations. Consult your local BakerCorp representative if specific needs exist.



TOP VIEW



END VIEW



SIDE VIEW

MODEL IL5424-4AS3

NOTES:

1. FLOW RATE DESIGN - 1000 GPM
2. MAXIMUM WORKING PRESSURE - 80 PSI.
3. ELECTRICAL:
   - CONTROLLER 120V, 1A
   - COMPRESSOR 120V, 5A
4. WEIGHT (APPROX.)
   A. EQUIPMENT - 4900#
   B. MEDIA - 14,500#
   C. OPERATION - 26,900#
5. BACKWASH RATE: 15 GPM/FT^2 - 240 GPM.
6. PNEUMATICALLY ACTIVATED VALVES. W/ SS TUBE
7. STEEL CONDUIT
8. TUBE TANK VENT VALVES TO GROUND

BAKERCORP™ 3020 OLD RANCH PARKWAY SEAL BEACH, CA 90740-2751

REV.	DESCRIPTION	DATE	BY
G			
F			
E			
D			
C			
B			
A			

SCALE: Do Not Scale	SIZE B	ORIGINAL DWG. DATE 17MAR05
DRAWN BY: P.J.B.	APPROVED BY: –	CAT/CLASS ––
TITLE: YARDNEY 4-POD SAND FILTER (Equipment No. SFL22034 and higher)		SHEET 1 OF 1
DRAWING NO. S-9-M0019-1-		REV. 0

PRODUCT DATA SHEET

March, 2008

8" 304 STAINLESS STEEL 12-BAG FILTER SYSTEM

GENERAL INFORMATION

Single vessel mounted on a forkliftable skid. Housing is not ASME code stamped. Different filter elements are available depending on job requirements and should be specified by the customer prior to use.

WEIGHTS AND MEASURES

» Capacity*:	1200 – 2000 gpm (@ 1 micron and up)
» Design Press:	150 psig
» Design Temp:	225°F max. (gasket dependent)
» Height:	7'-5" (overall)
» Width:	4'-11"
» Depth:	7'-5"
» Weight (dry):	1075 lbs. (approx.)

*Capacity (flowrate) depends on factors such as liquid viscosity, micron value of the filter media, solids loading etc. Assuming water as a filtrate and factoring in pressure drop only, 2000 gpm is a practical upper limit for a size #2 bag with a 100 micron rating; 1200 gpm with 1-micron rated bags.. Clean pressure drop would be 2-3 psi. Lowering the micron rating increases the pressure drop. The minimum pressure drop for this unit at higher micron ratings is 1-2 psi. Filter bags should be changed out at 15-18 psid, or earlier if the process requires it.

SKID DESIGN

» Skid:	2"x2"x0.25" A36 c.s. structural tubing
» Vessel Leg Supports:	3x3x.375 angle, SA-36
» Forklift Pockets:	Through front and rear framing channels

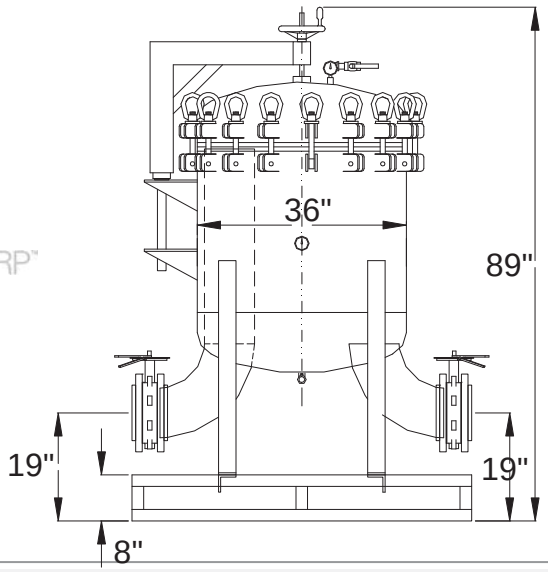
FILTER DESIGN

» Assembly Number:	Krystil Klear LR12-36-30-8F-A-4-15-SP
» Top Head:	(17) closure bolts and nuts with davit lift assembly. 36" O.D., 0.25" thk, SA-240 Gr. 304 stainless steel
» Shell:	36" O.D., 0.25" thick x 28" L . R & T, SA-240 Gr. 304 stainless steel
» Inlet & Outlet:	8" 150# RFSO flanges, SA-182 Gr. 304 S.S.
» Bag Elements:	12 required: size #2, 7-1/16" snap ring & 30" length required; Available fibers range from 1 to 1500 microns.
» Lid Seal:	Buna N O-ring
» In/Out Valves:	8" 150" butterfly with Buna seat
» Internal Hardware:	SA-240 Gr. 304 S.S. tube sheet

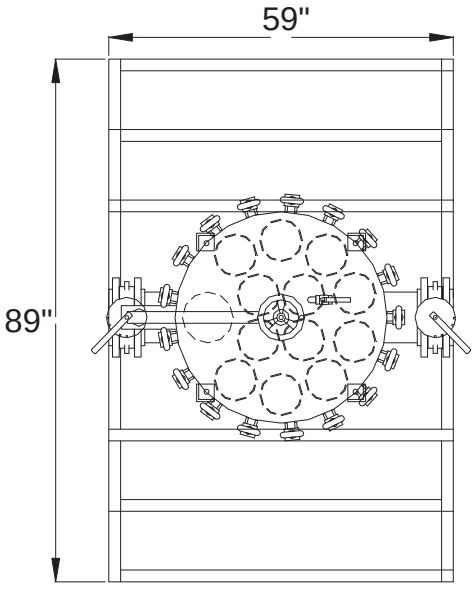
TESTS / CERTIFICATIONS

» Test Performed:	OEM Hydrotested @ 195 psi. Scheduled QMS inspections after purchase by BakerCorp.

BAKERCORP™



BAKERCORP™



PRODUCT DATA SHEET

January, 2007

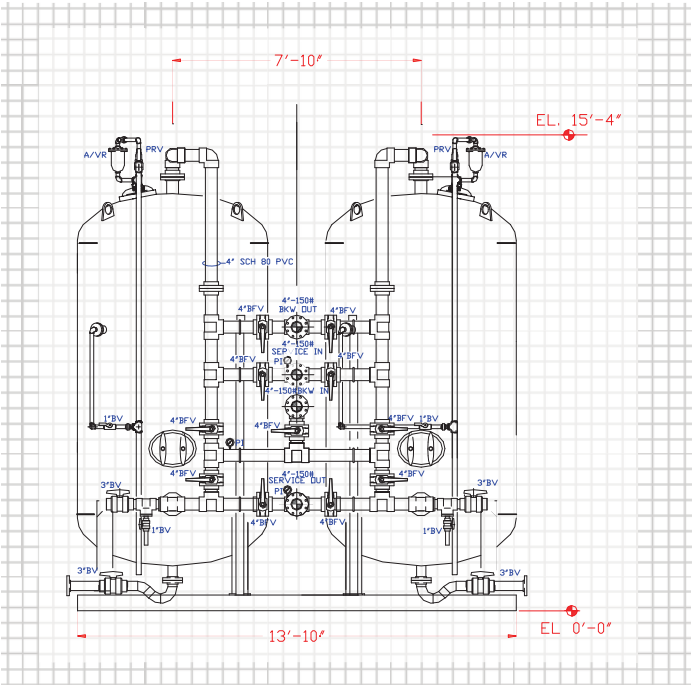
D-KLEEN.WATER 6000HP

GENERAL INFORMATION

This system is designed for continuous aqueous phase treatment of groundwater or wastewater, and has the ability to remove contaminants to non-detectable levels. The influent stream may be drawn in through the system in either series or parallel flow, and can operate on one vessel only while the other is in backwash mode. Baker can provide a number of service and disposal options for the spent media,

WEIGHTS AND MEASURES

» Max. Flowrate:	Series: 300 gpm; Parallel: 600 gpm
» Max. Pressure:	75 psi
» Max. Temp:	150°F
» Height:	15′-4″
» Width:	8′-0″ (skid)
» Length:	13′-10″ (skid)
» Diameter:	72″ (each vessel)
» Shipping Wt.: (empty)	~9,500 lbs.
» Operating Wt.:	~70,000 lbs.



FILTER MEDIA

» Types:	▪Activated Carbon ▪Organoclay ▪Ion Exchange Resin ▪Specialty Media
» Volume:	200 cu. ft per vessel (400 cu. ft. total)
» Weight:	6,000 lbs. each vessel (12,000 lbs. total)

MISCELLANEOUS DATA

» Vessel Code:	ASME Section VIII, Div. 1, paragraph UG125-UG137
» Inlet:	4″ Flange
» Outlet:	4″ Flange
» Interior Coating:	Plasite 4000 series
» Internals:	Lower Underdrain: 4: sch. 80 PVC slotted pipes (4) Upper Diffuser: 2″ sch. 80 PVC slotted pipes (4)
» Media Access:	Top and side manways
» Manway Gaskets:	Neoprene
» Manifold Valves:	4″ Lever-operated butterfly
» Relief Valves:	(1) - 1″x1½″ Thermal Relief (bronze/SS trim) (1) – 1″x1″ Air/Vacuum Vent (C.I./ bronze/SS trim)

PRESSURE DROP DATA

Contact BakerCorp

NOTE:

1. Wet activated carbon preferentially removes oxygen from air. In closed or partially closed containers and vessels, oxygen depletion may reach hazardous levels. If workers are to enter a vessel containing carbon, appropriate procedures for potentially low oxygen spaces must be followed, including all federal and state requirements.

BAKERCORP™

PRODUCT DATA SHEET

March, 2012

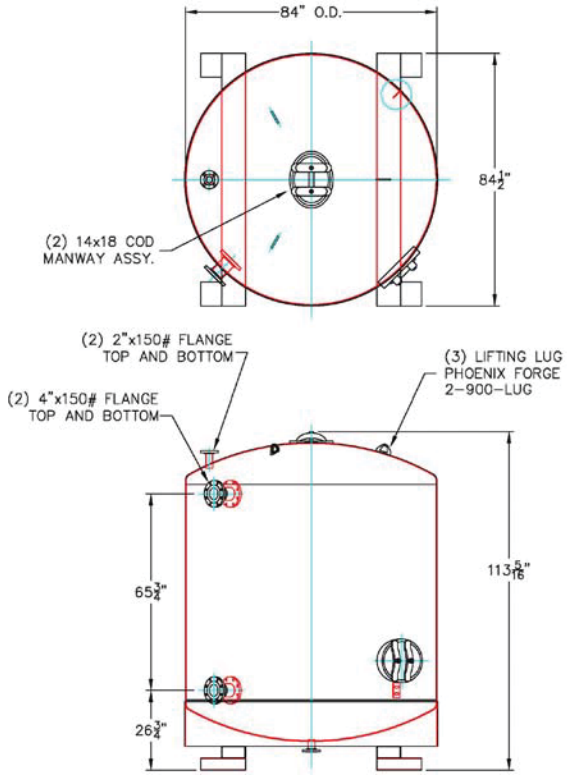
KLEEN.WATER 6000HPV

GENERAL INFORMATION

These units are designed for the efficient purification of contaminated water or liquid streams. These filters have the ability to remove contaminants to non-detectable levels. The vessels are constructed of heavy-duty mild steel and are lined with a double-layer epoxy coating.

WEIGHTS AND MEASURES

» Max. Flowrate:	300 gpm
» Max. Pressure:	75 psi
» Max. Temp:	150°F
» Height:	113-5/16″
» Diameter:	84″
» Shipping Wt*: (*Media dependent)	3475 lbs. Vessel Only 9475 lbs. – 15475 lbs. Vessel + Media*



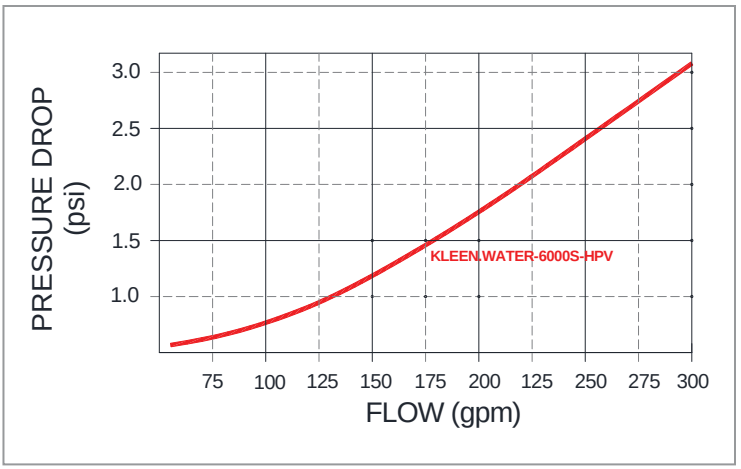
FILTER MEDIA

» Types:	▪Activated Carbon ▪Organoclay ▪Ion Exchange Resin ▪Specialty Media
» Volume:	200 cu. ft.
» Weight*: (*Media dependent)	6000 lbs. – 12000 lbs.

MISCELLANEOUS

» Inlet:	4″ FNPT TOP
» Outlet:	4″ FNPT LOWER SIDE
» Interior Coating:	Plasite 4110 Vinyl Ester Resin
» Internals:	Schedule 80 PVC underdrains
» Media Access:	Top & Side 14″x18″ manways (neoprene gaskets)

PRESSURE DROP DATA



NOTE:

1. Wet activated carbon preferentially removes oxygen from air. In closed or partially closed containers and vessels, oxygen depletion may reach hazardous levels. If workers are to enter a vessel containing carbon, appropriate procedures for potentially low oxygen spaces must be followed, including all federal and state requirements.

BAKERCORP™