

Appendix B
California Department of Water Resources Well Completion
Reports, Well Boring/Construction Logs, and Santa Clara
Valley Water District Well Construction Permits

July 26, 2010

Project 133816

Mr. Bill Cameron
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118-3686

Re: Soil Boring logs, Well Completion Diagrams and DWR Form 188 Site 28 WATS
System, Moffett Federal Airfield, Moffett Field, CA

Dear Mr. Cameron:

This letter serves as a transmittal letter for the subject items. Please find enclosed the subject soil lithologic logs, well completion diagrams, completed DWR Form 188 and a copy of our permit application for monitoring well numbers 28OW-01 through 28OW-24. These wells were installed as part of a treatability study to treat chlorinated volatile organic compounds in the groundwater.

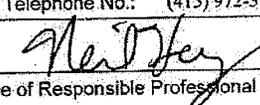
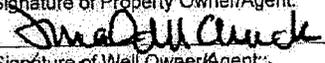
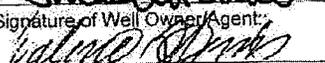
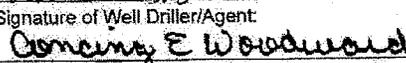
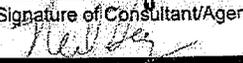
Should you have any questions, please call me at the 925-288-2072.

Sincerely,

Shaw Environmental, Inc..

Timothy L. Ripp, R.G.

WELL CONSTRUCTION APPLICATION

TO BE COMPLETED BY DISTRICT		
District Permit No.: <u>10W00285</u>	Date Issued: <u>6/3/10</u>	Well Registration No.:
Geologic Setting: <u>1</u>	Expiration Date: <u>12/3/10</u>	Driller's Log No.: <u>E011101</u>
TO BE COMPLETED BY OWNER AND DRILLER		
Well Owner: US Department of the Navy - BRAC	Property Owner: National Aeronautics & Space Administration	Name of Business at Well Site: National Aeronautics & Space Administration
Well Owner's Mailing Address: 1455 Frazee Road, Suite 900 City, State, Zip San Diego, CA 92108	Property Owner's Mailing Address: NASA Ames Research Center, Building 237, Room 115 City, State, Zip Moffett Field, CA 94035	Address of Well Site: IR Site 28, Former Naval Air Station Moffett Field City, State, Zip Moffett Field, CA 94035
Telephone No. & Contact Name: Valerie Harris (619) 532-0981	Telephone No. & Contact Name: Donald Chuck (650) 604-0237	Telephone No.: None
Owner's/Consultant's Well No.: <u>280W-01</u>	Assessor's Parcel No. of Well Site:	Book <u>116</u> Page <u>18</u> Parcel <u>012</u>
Consultant (Company): Shaw Environmental, Inc.	Drilling Company: Woodward Drilling	
Address: 4005 Port Chicago Highway City, State, Zip Concord, CA 94520-1120	Address: P.O. Box 336, 550 River Road City, State, Zip Rio Vista, CA 94571	
Telephone No.: (925) 288-9898	Telephone No.: (707) 374-4300	C-57 License No.: 710079
<input type="checkbox"/> Check if address or phone number has changed	<input type="checkbox"/> Check if address or phone number has changed	
THIS SECTION TO BE COMPLETED FOR ALL MONITORING WELLS OR EXTRACTION/RECOVERY WELLS		
Case Name/No.:	Caseworker Name: <u>Alana Lee</u>	
Oversight Agency: <u>USEPA Region IX</u>	Caseworker Telephone No.: <u>(415) 972-3141</u>	
Type of Monitoring Device: <input checked="" type="checkbox"/> Groundwater <input type="checkbox"/> Vadose Type of Extraction Device: <input type="checkbox"/> Groundwater <input type="checkbox"/> Vadose Monitoring Well Use: <input type="checkbox"/> Depth <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Chloride Nestled/Multi-Level Well: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	(No substitution of signature will be accepted)  Signature of Responsible Professional <u>Neil Hey</u> Print Name _____ OR _____ Civil Engineer Registration No. PG 8006 Geologist Registration No.	
NOTE: If Nested/Multi-Level Well is proposed, a separate permit is needed for each casing.		
Estimated Depth of Completed Well: <input checked="" type="checkbox"/> Less than 50 feet <input type="checkbox"/> 50 to 300 feet <input type="checkbox"/> Over 300 feet <input type="checkbox"/> Other: _____	Purpose of Well: <input type="checkbox"/> Domestic <input type="checkbox"/> Municipal/Industrial <input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Monitoring <input type="checkbox"/> Cathodic Protection <input type="checkbox"/> Other: _____	
NOTE: Monitoring wells are those constructed for the purpose of obtaining repetitive water level measurements and/or repetitive air samples for analysis.		
Well is to be constructed: <input type="checkbox"/> In a public sidewalk <input type="checkbox"/> In a public road <input checked="" type="checkbox"/> On public property <input type="checkbox"/> On private property <input type="checkbox"/> On District property/easement* <input type="checkbox"/> Within 50 feet of the top of a creek bank or District facility		
Within 50 feet of sanitary sewer: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Within 50 feet of any existing well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Within 100 feet of a pit privy, septic tank, or leachfield: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Within 150 feet of a cesspool or seepage pit: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
*See General Condition F, page 2.	Other wells exist on this property? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, status: <input checked="" type="checkbox"/> Active <input type="checkbox"/> Inactive <input type="checkbox"/> Abandoned	
SIGNATURES		
I understand and agree that all work associated with this permit is required to be done in accordance with Santa Clara Valley Water District (District) Well Ordinance 90-1, the District Well Standards, and the conditions of this permit (see page 2). I certify that the information given in this permit is correct to the best of my knowledge and that the signature below, whether original, electronic, or photocopied, is authorized and valid, and is affixed with the intent to be enforceable. I also certify that a right of entry/encroachment agreement has been formalized between the well owner and property owner, if parties differ. I also understand that it is my responsibility, as the well owner, to notify the District of any changes in the purpose of this well, from which, is indicated on this application.		
Signature of Property Owner/Agent: 	Date: <u>5/21/2010</u>	Print Name of Property Owner/Agent: Donald M. Chuck
Signature of Well Owner/Agent: 	Date: <u>5/21/2010</u>	Print Name of Well Owner/Agent: Valerie Harris
Signature of Well Driller/Agent: 	Date: <u>5/24/2010</u>	Print Name of Driller/Agent: Wayne Woodward
Signature of Consultant/Agent: 	Date: <u>5/25/2010</u>	Print Name of Consultant/Agent: Neil Hey
IMPORTANT: A minimum 24-hour notice must be given to Santa Clara Valley Water District Well Inspection Department prior to installing the annular seal. Call (408) 265-2607, ext. 2660. For weekends, holidays, or after-hours, call (408) 265-2607, ext. 2120. Please allow 10 working days to process permit application.		

MAY 26 2010



5750 Almaden Expressway
San Jose, CA 95118-3886
(408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 158 (05-07-08)
Page 2 of 2

DISTRICT WELL PERMIT NO.: _____

Based on information on this application and attachment(s) hereto (if any) and subject to approval noted below, permission is hereby granted to construct (drill) the described well. Permission to start work may be withheld until a field check verifies all statements made on application by permittee and is also subject to the "General" and "Special" Conditions stated below.

SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH APPROVAL (Water Supply Well Only)

NOTE: Department of Environmental Health approval must be granted before this application will be accepted by Santa Clara Valley Water District.

Approved by:

R.E.H.S

- Approved as submitted
 Approved as corrected

Date:

SITE PLAN

A 8½" x 11" paper site plan must be attached to this application, including:

1. Location of site features, including major buildings, landscaped areas, tank fields, existing wells, etc.
2. North arrow and scale
3. Location of proposed well with dimensions in feet from well to nearest cross streets.

GENERAL CONDITIONS

- A. District (telephone 408-265-2607, ext. 2660) must be notified a minimum of one working day before construction of the annular seal. An authorized District representative must be on site to witness the construction of the annular seal. This requirement may be waived by an authorized District representative. If the District waives the inspection requirement, the District may request the permittee(s) to furnish certification, under penalty of perjury, that the well was constructed in accordance with the District Well Standards and with the permit conditions.
- B. Permittee agrees to construct, operate, and maintain the well according to provisions of the latest District Ordinance and the latest published revisions of District Well Standards to the end that this well will not cause pollution or contamination of groundwater or otherwise jeopardize the health, safety, or welfare of the people of the District.
- C. This permit is valid only for the purpose specified herein. Well construction methods authorized under this permit may not be changed except by written approval of an authorized District representative, and only if the District believes that such a change will result in equal or superior compliance with the District and State Well Standards (e.g., if the District representative finds that site conditions warrant such a change).
- D. This permit is only valid for the Assessor's Parcel No. indicated on it.
- E. This permit may be voided if it contains incorrect information. If the permit is voided after work has begun, the well or boring that was constructed under this permit must be destroyed in accordance with District and State Well Standards.
- F. If any work associated with this permit will take place on District property/easement, an encroachment or construction permit must be granted by the District's Community Projects Review Unit (telephone 408-265-2607, ext. 2589).
- G. Before the well constructed under this permit can be used as a drinking water source, its use must be approved by the regulatory agency with authority over such use (typically the Santa Clara County Department of Environmental Health or the State of California Department of Public Health). A completed Well Inventory Form must also be approved.
- H. If the well constructed under this permit cannot be or is not being used for its intended purpose, permittee is hereby required to destroy the well according to the District Well Standards and under permit from the District. Any test holes drilled under this permit must be destroyed within 24 hours of completion of testing activities. Destruction activities must be completed according to District standards. District must be notified a minimum of 24 hours prior to destruction.
- I. Within 30 days of the completion of the well construction activities, the driller or consultant identified on this permit shall fully complete State of California DWR Form 188 and mail the original to the District's Wells and Water Production Unit.
- J. The permittee(s) shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend, and hold the District, its officers, agents, and employees, free and harmless from any and all expense, cost, and liability in connection with or resulting from the granting or exercise of this permit including, but not limited to, property damage, personal injury, and wrongful death.
- K. Permittees are required to be in full compliance with Cal/OSHA California Labor Code Section 6300.
- L. A current C-57 Water Well Drilling Contractor's License is required for the construction of all wells.
- M. Permittee, permittee's contractors, consultants, or agents shall be responsible to assure that all materials or waters generated during drilling, well construction, well development, pump testing, or other activities associated with this permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on- or off-site storm sewers, dry wells, or waterways. Such materials/waters must not be allowed to move off the property where the work is being completed.
- N. The driller and consultants (if applicable) shall have an active copy of their Worker's Compensation Insurance on file with District.
- O. This permit shall expire if not exercised within 180 calendar days of its approval, unless an extension of the permit expiration date is granted by an authorized District representative.
- P. This permit must be kept on site during all activities associated with it and shall immediately be presented to an authorized District representative upon request.

SPECIAL CONDITIONS

Community Projects Review Unit Approval (if needed):

CPRU Permit No.:

Approved by:

Date:

Please allow 10 working days to process this application.



Drilling Log

Monitoring Well **28OW-01**

Page: 1 of 1

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816
 Surface Elev.* 20.4 ft. Total Hole Depth 17 ft. bgs North* 1975947.0 East* 6110435.6
 Top of Casing* 20.33 ft. Water Level Initial NA Static ▼ 4.8 ft. Diameter 8 in.
 Screen: Dia 2 in. Length 5 ft. Type/Slot Size Sch 40 PVC/0.010 in.
 Casing: Dia 2 in. Length 12 ft. Type Sch 40 PVC
 Fill Material See Comments Rig/Core BK81
 Drill Co. Woodward Drilling Method Hollow Stem Auger
 Driller Amador Arroyo Log By Michael Glas Well Inst. Date 6/22/10 Permit # 10W00285
 Checked By Timothy Ripp License No. CHG 786

COMMENTS
Annular Seal
Cement Grout 0-8'
Plug
Bentonite Chips 8-10'
Filter Pack
#2/16 Sand 10-17'
Screened Interval
Machine Slotted Sch 40 PVC
12-17'

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0		8" Vault				See log 28OW-04 for lithologic information.
2		Sch 40 PVC 0-12'				
4		Cement grout 0-8'				
4.8		▼				
8		Bentonite Chips 8-10'				
10		#2/16 Sand 10-17'				
12						
14		0.010" Sch 40 PVC 12-17'				
16						
18		Threaded cap with gasket				
20						

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

*CCS Zone 3, NAD83, NAVD88

File Original with DWR

State of California
Well Completion Report

Refer to Instructor Pamphlet
No. ~~300000~~ **2011100**

Page 1 of 1

Owner's Well Number 28OW-02

Date Work Began 06/24/2010 Date Work Ended 6/24/2010

Local Permit Agency Santa Clara Valley Water District

Permit Number 10W00284 Permit Date 6/3/10

DWR Use Only - Do Not Fill In

State Well Number/Site Number

Latitude

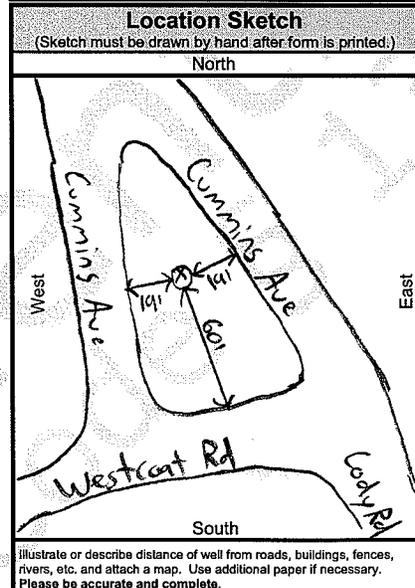
Longitude

APN/TRS/Other

Geologic Log		
Orientation <input checked="" type="radio"/> Vertical <input type="radio"/> Horizontal <input type="radio"/> Angle Specify _____		
Drilling Method <u>Hollow Stem Auger</u> Drilling Fluid _____		
Depth from Surface		Description
Feet	to Feet	Describe material, grain size, color, etc
0	0,5	Coarse landscaping gravel
0,5	1	Well graded sand with gravel - brown
1	5	Clay - dark olive gray
5	5,5	Silty sand with gravel - olive gray
5.5	6	Clay with sand and gravel - olive brown
6	8,5	Silt - very dark greenish gray
8.5	9	Clay - olive
9	10	No recovery
10	12	Silt - very dark grayish brown
12	13	Silt - greenish black
13	13,5	Silty sand - greenish black
13.5	14,5	Clay - very dark greenish gray
14.5	15	Sandy silt - very dark greenish gray
15	15,5	Silty sand - very dark greenish gray
15.5	17	Poorly graded sand - dark olive brown
17	17,5	Silty sand - very dark grayish brown
17.5	20	No recovery
20	20,5	Clayey sand with gravel - olive
20.5	25	No recovery
25	26,5	Silty sand with gravel - dark olive brown
26.5	28	Well graded sand - olive brown
28	29	No recovery
Total Depth of Boring <u>29</u> Feet		
Total Depth of Completed Well <u>29</u> Feet		

Well Owner		
Name	<u>U.S. Department of the Navy</u>	
Mailing Address	<u>1455 Frazee Road, Suite 900</u>	
City	<u>San Diego</u>	State <u>CA</u> Zip <u>92108</u>

Well Location		
Address	<u>Site 28, Former Naval Air Station Moffett Field</u>	
City	<u>Moffett Field</u>	County <u>Santa Clara</u>
Latitude	_____ N Longitude _____ W	
Datum	Decimal Lat. _____	Decimal Long. _____
APN Book	Page _____	Parcel _____
Township	Range _____	Section _____



- Activity**
- New Well
 - Modification/Repair
 - Deepen
 - Other _____
 - Destroy
Describe procedures and materials under "GEOLOGIC LOG"

- Planned Uses**
- Water Supply
 - Domestic Public
 - Irrigation Industrial
 - Cathodic Protection
 - Dewatering
 - Heat Exchange
 - Injection
 - Monitoring
 - Remediation
 - Sparging
 - Test Well
 - Vapor Extraction
 - Other _____

Water Level and Yield of Completed Well			
Depth to first water	_____	(Feet below surface)	
Depth to Static	_____		
Water Level	<u>4.41</u>	(Feet)	Date Measured <u>06/30/2010</u>
Estimated Yield *	_____	(GPM)	Test Type _____
Test Length	_____	(Hours)	Total Drawdown _____ (Feet)
*May not be representative of a well's long term yield.			

Casings							
Depth from Surface	Borehole Diameter	Type	Material	Wall Thickness	Outside Diameter	Screen Type	Slot Size if Any
Feet to Feet	(Inches)			(Inches)	(Inches)		(Inches)
0	24	8	Blank	PVC Sch. 40	0.154	2.375	
24	29	8	Screen	PVC Sch. 40	0.154	2.375	0.010

Annular Material			
Depth from Surface	Fill	Description	
Feet to Feet			
0	20	Cement	
20	22	Bentonite	Pellets
22	29	Filter Pack	#2/16 sand

- Attachments**
- Geologic Log
 - Well Construction Diagram
 - Geophysical Log(s)
 - Soil/Water Chemical Analyses
 - Other _____
- Attach additional information, if it exists.

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name Woodward Drilling Co., INC.
Person, Firm or Corporation

550 River Road Rio Vista CA 94571
Address City State Zip

Signed Monica E Woodward 7/22/10 710079
C-57 Licensed Water Well Contractor Date Signed C-57 License Number

WELL CONSTRUCTION APPLICATION

TO BE COMPLETED BY DISTRICT

District Permit No.: <u>10W00284</u>	Date Issued: <u>6/3/10</u>	Well Registration No.:
Geologic Setting: <u>1</u>	Expiration Date: <u>12/3/10</u>	Driller's Log No.: <u>ED11100</u>

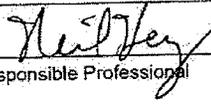
TO BE COMPLETED BY OWNER AND DRILLER

Well Owner: US Department of the Navy - BRAC	Property Owner: National Aeronautics & Space Administration	Name of Business at Well Site: National Aeronautics & Space Administration
Well Owner's Mailing Address: 1455 Frazee Road, Suite 900 City, State, Zip San Diego, CA 92108	Property Owner's Mailing Address: NASA Ames Research Center, Building 237, Room 115 City, State, Zip Moffett Field, CA 94035	Address of Well Site: IR Site 28, Former Naval Air Station Moffett Field City, State, Zip Moffett Field, CA 94035
Telephone No. & Contact Name: Valerie Harris (619) 532-0981	Telephone No. & Contact Name: Donald Chuck (650) 604-0237	Telephone No.: None

Owner's/Consultant's Well No.: 28OW-02 Assessor's Parcel No. of Well Site: Book 116 Page 18 Parcel 012

Consultant (Company): Shaw Environmental, Inc. Address: 4005 Port Chicago Highway City, State, Zip Concord, CA 94520-1120	Drilling Company: Woodward Drilling Address: P.O. Box 336, 550 River Road City, State, Zip Rio Vista, CA 94571
Telephone No.: (925) 288-9898	Telephone No.: (707) 374-4300
<input type="checkbox"/> Check if address or phone number has changed	C-57 License No.: 710079 <input type="checkbox"/> Check if address or phone number has changed

THIS SECTION TO BE COMPLETED FOR ALL MONITORING WELLS OR EXTRACTION/RECOVERY WELLS

Case Name/No.:	Caseworker Name: <u>Alana Lee</u>
Oversight Agency: <u>USEPA Region IX</u>	Caseworker Telephone No.: <u>(415) 972-3141</u>
Type of Monitoring Device: <input checked="" type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	Signature of Responsible Professional  Neil Hey Print Name PG 8006 Civil Engineer Registration No. OR Geologist Registration No.
Type of Extraction Device: <input type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	
Monitoring Well Use: <input type="checkbox"/> Depth <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Chloride	
Nested/Multi-Level Well: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
NOTE: If Nested/Multi-Level Well is proposed, a separate permit is needed for each casing.	

Estimated Depth of Completed Well: Less than 50 feet 50 to 300 feet Over 300 feet Other: _____

Purpose of Well: Domestic Municipal/Industrial Agricultural Monitoring Cathodic Protection Other: _____

NOTE: Monitoring wells are those constructed for the purpose of obtaining repetitive water level measurements and/or repetitive air samples for analysis.

Well is to be constructed: In a public sidewalk In a public road On public property On private property On District property/easement*
 Within 50 feet of the top of a creek bank or District facility

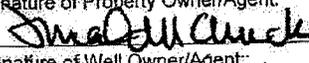
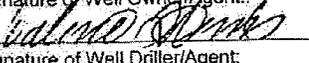
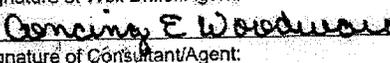
Within 50 feet of sanitary sewer: Yes No Within 50 feet of any existing well: Yes No

Within 100 feet of a pit privy, septic tank, or leachfield: Yes No Within 150 feet of a cesspool or seepage pit: Yes No

*See General Condition F, page 2. Other wells exist on this property? Yes No If yes, status: Active Inactive Abandoned

SIGNATURES

I understand and agree that all work associated with this permit is required to be done in accordance with Santa Clara Valley Water District (District) Well Ordinance 90-1, the District Well Standards, and the conditions of this permit (see page 2). I certify that the information given in this permit is correct to the best of my knowledge and that the signature below, whether original, electronic, or photocopied, is authorized and valid, and is affixed with the intent to be enforceable. I also certify that a right of entry/encroachment agreement has been formalized between the well owner and property owner, if parties differ. I also understand that it is my responsibility, as the well owner, to notify the District of any changes in the purpose of this well, from which, is indicated on this application.

Signature of Property Owner/Agent: 	Date: <u>5/21/2010</u>	Print Name of Property Owner/Agent: Donald M. Chuck
Signature of Well Owner/Agent: 	Date: <u>5/21/2010</u>	Print Name of Well Owner/Agent: Valerie Harris
Signature of Well Driller/Agent: 	Date: <u>5/24/2010</u>	Print Name of Driller/Agent: Wayne Woodward
Signature of Consultant/Agent: 	Date: <u>5/25/2010</u>	Print Name of Consultant/Agent: Neil Hey

IMPORTANT: A minimum 24-hour notice must be given to Santa Clara Valley Water District Well Inspection Department prior to installing the annular seal. Call (408) 265-2607, ext. 2660. For weekends, holidays, or after-hours, call (408) 265-2607, ext. 2120. Please allow 10 working days to process permit application.

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DISTRICT WELL PERMIT NO.: _____

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SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH APPROVAL (Water Supply Well Only)

NOTE: Department of Environmental Health approval must be granted before this application will be accepted by Santa Clara Valley Water District.

Approved by:	R.E.H.S	<input type="checkbox"/> Approved as submitted
		<input type="checkbox"/> Approved as corrected
		Date:

SITE PLAN

- A 8 1/2" x 11" paper site plan must be attached to this application, including:
1. Location of site features, including major buildings, landscaped areas, tank fields, existing wells, etc.
 2. North arrow and scale
 3. Location of proposed well with dimensions in feet from well to nearest cross streets.

GENERAL CONDITIONS

- District** (telephone 408-265-2607, ext. 2660) must be notified a minimum of one working day before construction of the annular seal. An authorized District representative must be on site to witness the construction of the annular seal. This requirement may be waived by an authorized District representative. If the District waives the inspection requirement, the District may request the permittee(s) to furnish certification, under penalty of perjury, that the well was constructed in accordance with the District Well Standards and with the permit conditions.
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- The permittee(s) shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend, and hold the District, its officers, agents, and employees, free and harmless from any and all expense, cost, and liability in connection with or resulting from the granting or exercise of this permit including, but not limited to, property damage, personal injury, and wrongful death.
- Permittees are required to be in full compliance with Cal/OSHA California Labor Code Section 6300.
- A current C-57 Water Well Drilling Contractor's License is required for the construction of all wells.
- Permittee, permittee's contractors, consultants, or agents shall be responsible to assure that all materials or waters generated during drilling, well construction, well development, pump testing, or other activities associated with this permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on- or off-site storm sewers, dry wells, or waterways. Such materials/waters must not be allowed to move off the property where the work is being completed.
- The driller and consultants (if applicable) shall have an active copy of their Worker's Compensation Insurance on file with District.
- This permit shall expire if not exercised within 180 calendar days of its approval, unless an extension of the permit expiration date is granted by an authorized District representative.
- This permit must be kept on site during all activities associated with it and shall immediately be presented to an authorized District representative upon request.

SPECIAL CONDITIONS

Community Projects Review Unit Approval (if needed):

CPRU Permit No.:

Approved by:

Date:

Please allow 10 working days to process this application.



Drilling Log

Monitoring Well **28OW-02**

Page: 1 of 1

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816
 Surface Elev.* 20.4 ft. Total Hole Depth 29 ft. bgs North* 1975944.5 East* 6110436.1
 Top of Casing* 20.27 ft. Water Level Initial NA Static ▼ 4.6 ft. Diameter 8 in.
 Screen: Dia 2 in. Length 5 ft. Type/Slot Size Sch 40 PVC/0.010 in.
 Casing: Dia 2 in. Length 24 ft. Type Sch 40 PVC
 Fill Material See Comments Rig/Core BK81
 Drill Co. Woodward Drilling Method Hollow Stem Auger
 Driller Amador Arroyo Log By Michael Glas Well Inst. Date 6/24/10 Permit # 10W00284
 Checked By Timothy Ripp License No. CHG 786

COMMENTS
Annular Seal
Cement Grout 0-20'
Plug
Bentonite Chips 20-22'
Filter Pack
#2/16 Sand 22-29'
Screened Interval
Machine Slotted Sch 40 PVC
24-29'

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0		8" Vault				See log 280W-04 for lithologic information.
2		Sch 40 PVC 0-24'				
4		Cement grout 0-20'				
6						
8						
10						
12						
14						
16						
18						
20		Bentonite Chips 20-22'				
22		#2/16 Sand 22-29'				
24						
26		0.010" Sch 40 PVC 24-29'				
28						
30		Threaded cap with gasket				

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

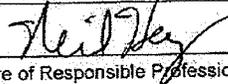
*CCS Zone 3, NAD83, NAVD88

WELL CONSTRUCTION APPLICATION

TO BE COMPLETED BY DISTRICT		
District Permit No.: <u>10W00283</u>	Date Issued: <u>6-3-10</u>	Well Registration No.:
Geologic Setting: <u>1</u>	Expiration Date: <u>12-3-10</u>	Driller's Log No.: <u>E0111099</u>

TO BE COMPLETED BY OWNER AND DRILLER		
Well Owner: US Department of the Navy - BRAC	Property Owner: National Aeronautics & Space Administration	Name of Business at Well Site: National Aeronautics & Space Administration
Well Owner's Mailing Address: 1455 Frazee Road, Suite 900 City, State, Zip San Diego, CA 92108	Property Owner's Mailing Address: NASA Ames Research Center, Building 237, Room 115 City, State, Zip Moffett Field, CA 94035	Address of Well Site: IR Site 28, Former Naval Air Station Moffett Field City, State, Zip Moffett Field, CA 94035
Telephone No. & Contact Name: Valerie Harris (619) 532-0981	Telephone No. & Contact Name: Donald Chuck (650) 604-0237	Telephone No.: None

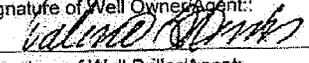
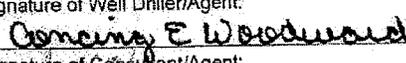
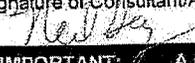
Owner's/Consultant's Well No.: <u>280W-03</u>	Assessor's Parcel No. of Well Site: <u>Book 116 Page 18 Parcel 012</u>
Consultant (Company): Shaw Environmental, Inc. Address: 4005 Port Chicago Highway City, State, Zip Concord, CA 94520-1120	Drilling Company: Woodward Drilling Address: P.O. Box 336, 550 River Road City, State, Zip Rio Vista, CA 94571
Telephone No.: (925) 288-9898	Telephone No.: (707) 374-4300
<input type="checkbox"/> Check if address or phone number has changed	C-57 License No.: 710079

THIS SECTION TO BE COMPLETED FOR ALL MONITORING WELLS OR EXTRACTION/RECOVERY WELLS	
Case Name/No.:	Caseworker Name: <u>Alana Lee</u>
Oversight Agency: <u>USEPA Region IX</u>	Caseworker Telephone No.: <u>(415) 972-3141</u>
Type of Monitoring Device: <input checked="" type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	Signature of Responsible Professional  Neil Hey Print Name Civil Engineer Registration No. <u>PG 8006</u> OR Geologist Registration No.
Type of Extraction Device: <input type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	
Monitoring Well Use: <input type="checkbox"/> Depth <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Chloride	
Nested/Multi-Level Well: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
NOTE: If Nested/Multi-Level Well is proposed, a separate permit is needed for each casing.	

Estimated Depth of Completed Well: <input type="checkbox"/> Less than 50 feet <input checked="" type="checkbox"/> 50 to 300 feet <input type="checkbox"/> Over 300 feet <input type="checkbox"/> Other: _____
Purpose of Well: <input type="checkbox"/> Domestic <input type="checkbox"/> Municipal/Industrial <input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Monitoring <input type="checkbox"/> Cathodic Protection <input type="checkbox"/> Other: _____
NOTE: Monitoring wells are those constructed for the purpose of obtaining repetitive water level measurements and/or repetitive air samples for analysis.
Well is to be constructed: <input type="checkbox"/> In a public sidewalk <input type="checkbox"/> In a public road <input checked="" type="checkbox"/> On public property <input type="checkbox"/> On private property <input type="checkbox"/> On District property/easement*
<input type="checkbox"/> Within 50 feet of the top of a creek bank or District facility
Within 50 feet of sanitary sewer: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Within 100 feet of a pit privy, septic tank, or leachfield: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
*See General Condition F, page 2. Other wells exist on this property? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, status: <input checked="" type="checkbox"/> Active <input type="checkbox"/> Inactive <input type="checkbox"/> Abandoned

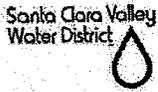
SIGNATURES

I understand and agree that all work associated with this permit is required to be done in accordance with Santa Clara Valley Water District (District) Well Ordinance 90-1, the District Well Standards, and the conditions of this permit (see page 2). I certify that the information given in this permit is correct to the best of my knowledge and that the signature below, whether original, electronic, or photocopied, is authorized and valid, and is affixed with the intent to be enforceable. I also certify that a right of entry/encroachment agreement has been formalized between the well owner and property owner, if parties differ. I also understand that it is my responsibility, as the well owner, to notify the District of any changes in the purpose of this well, from which, is indicated on this application.

Signature of Property Owner/Agent: 	Date: <u>5/21/2010</u>	Print Name of Property Owner/Agent: Donald M. Chuck
Signature of Well Owner/Agent: 	Date: <u>5/21/2010</u>	Print Name of Well Owner/Agent: Valerie Harris
Signature of Well Driller/Agent: 	Date: <u>5/24/2010</u>	Print Name of Driller/Agent: Wayne Woodward
Signature of Consultant/Agent: 	Date: <u>5/25/2010</u>	Print Name of Consultant/Agent: Neil Hey

IMPORTANT: A minimum 24-hour notice must be given to Santa Clara Valley Water District Well Inspection Department prior to installing the annular seal. Call (408) 265-2607, ext. 2660. For weekends, holidays, or after-hours, call (408) 265-2607, ext. 2120. Please allow 10 working days to process permit application.

MAY 26 2010



5750 Almaden Expressway
San Jose, CA 95118-3686
(408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 158 (05-07-08)
Page 2 of 2

DISTRICT WELL PERMIT NO.: _____

Based on information on this application and attachment(s) hereto (if any) and subject to approval noted below, permission is hereby granted to construct (drill) the described well. Permission to start work may be withheld until a field check verifies all statements made on application by permittee and is also subject to the "General" and "Special" Conditions stated below.

SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH APPROVAL (Water Supply Well Only)

NOTE: Department of Environmental Health approval must be granted before this application will be accepted by Santa Clara Valley Water District.

Approved by:	R.E.H.S.	<input type="checkbox"/> Approved as submitted
		<input type="checkbox"/> Approved as corrected
		Date:

SITE PLAN

- A 8½" x 11" paper site plan must be attached to this application, including:
1. Location of site features, including major buildings, landscaped areas, tank fields, existing wells, etc.
 2. North arrow and scale
 3. Location of proposed well with dimensions in feet from well to nearest cross streets.

GENERAL CONDITIONS

- A. District (telephone 408-265-2607, ext. 2660) must be notified a minimum of one working day before construction of the annular seal. An authorized District representative must be on site to witness the construction of the annular seal. This requirement may be waived by an authorized District representative. If the District waives the inspection requirement, the District may request the permittee(s) to furnish certification, under penalty of perjury, that the well was constructed in accordance with the District Well Standards and with the permit conditions.
- B. Permittee agrees to construct, operate, and maintain the well according to provisions of the latest District Ordinance and the latest published revisions of District Well Standards to the end that this well will not cause pollution or contamination of groundwater or otherwise jeopardize the health, safety, or welfare of the people of the District.
- C. This permit is valid only for the purpose specified herein. Well construction methods authorized under this permit may not be changed except by written approval of an authorized District representative, and only if the District believes that such a change will result in equal or superior compliance with the District and State Well Standards (e.g., if the District representative finds that site conditions warrant such a change).
- D. This permit is only valid for the Assessor's Parcel No. indicated on it.
- E. This permit may be voided if it contains incorrect information. If the permit is voided after work has begun, the well or boring that was constructed under this permit must be destroyed in accordance with District and State Well Standards.
- F. If any work associated with this permit will take place on District property/easement, an encroachment or construction permit must be granted by the District's Community Projects Review Unit (telephone 408-265-2807, ext. 2589).
- G. Before the well constructed under this permit can be used as a drinking water source, its use must be approved by the regulatory agency with authority over such use (typically the Santa Clara County Department of Environmental Health or the State of California Department of Public Health). A completed Well Inventory Form must also be approved.
- H. If the well constructed under this permit cannot be or is not being used for its intended purpose, permittee is hereby required to destroy the well according to the District Well Standards and under permit from the District. Any test holes drilled under this permit must be destroyed within 24 hours of completion of testing activities. Destruction activities must be completed according to District standards. District must be notified a minimum of 24 hours prior to destruction.
- I. Within 30 days of the completion of the well construction activities, the driller or consultant identified on this permit shall fully complete State of California DWR Form 188 and mail the original to the District's Wells and Water Production Unit.
- J. The permittee(s) shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend, and hold the District, its officers, agents, and employees, free and harmless from any and all expense, cost, and liability in connection with or resulting from the granting or exercise of this permit including, but not limited to, property damage, personal injury, and wrongful death.
- K. Permittees are required to be in full compliance with Cal/OSHA California Labor Code Section 6300.
- L. A current C-57 Water Well Drilling Contractor's License is required for the construction of all wells.
- M. Permittee, permittee's contractors, consultants, or agents shall be responsible to assure that all materials or waters generated during drilling, well construction, well development, pump testing, or other activities associated with this permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on- or off-site storm sewers, dry wells, or waterways. Such materials/waters must not be allowed to move off the property where the work is being completed.
- N. The driller and consultants (if applicable) shall have an active copy of their Worker's Compensation Insurance on file with District.
- O. This permit shall expire if not exercised within 180 calendar days of its approval, unless an extension of the permit expiration date is granted by an authorized District representative.
- P. This permit must be kept on site during all activities associated with it and shall immediately be presented to an authorized District representative upon request.

SPECIAL CONDITIONS

Community Projects Review Unit Approval (if needed):	CPRU Permit No.:
Approved by:	Date:

Please allow 10 working days to process this application.



Drilling Log

Monitoring Well **28OW-03**

Page: 1 of 1

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816
 Surface Elev.* 20.5 ft. Total Hole Depth 50 ft. bgs North* 1975945.9 East* 6110432.6
 Top of Casing* 20.06 ft. Water Level Initial NA Static ▼ 4.2 ft. Diameter 8 in.
 Screen: Dia 2 in. Length 10 ft. Type/Slot Size Sch 40 PVC/0.010 in.
 Casing: Dia 2 in. Length 40 ft. Type Sch 40 PVC
 Fill Material See Comments Rig/Core BK81
 Drill Co. Woodward Drilling Method Hollow Stem Auger
 Driller Amador Arroyo Log By Michael Glas Well Inst. Date 6/24/10 Permit # 10W00283
 Checked By Timothy Ripp License No. CHG 786

COMMENTS
Annular Seal
Cement Grout 0-36'
Plug
Bentonite Chips 36-38'
Filter Pack
#2/16 Sand 38-50'
Screened Interval
Machine Slotted Sch 40 PVC
40-50'

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0		8" Vault				See log 280W-04 for lithologic information.
0-40'		Sch 40 PVC 0-40'				
0-36'		Cement grout 0-36'				
36-38'		Bentonite Chips 36-38'				
38-50'		#2/16 Sand 38-50'				
40-50'		0.010" Sch 40 PVC 40-50'				
50		Threaded cap with gasket				
55						

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

*CCS Zone 3, NAD83, NAVD88

*The free Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a saved form.

File Original with DWR

State of California

Well Completion Report

Refer to Instruction Pamphlet

No. ~~XXXXXXXX~~ e0111098

Page 1 of 2

Owner's Well Number 28OW-04

Date Work Began 06/22/2010

Date Work Ended 6/22/2010

Local Permit Agency Santa Clara Valley Water District

Permit Number 10W00282

Permit Date 6/3/10

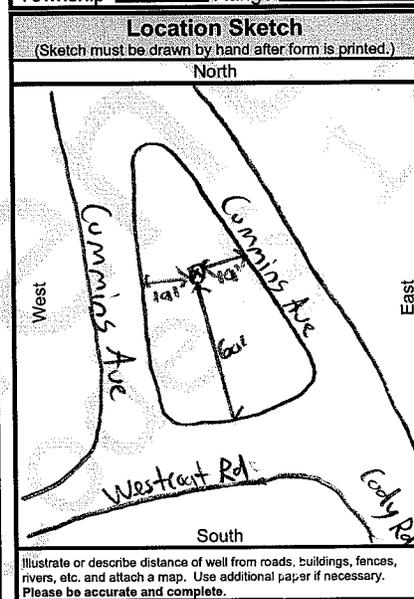
DWR Use Only - Do Not Fill In

State Well Number/Site Number	
N	W
Latitude	Longitude
APN/TRS/Other	

Geologic Log		
Orientation <input checked="" type="radio"/> Vertical <input type="radio"/> Horizontal <input type="radio"/> Angle Specify _____		
Drilling Method <u>Hollow Stem Auger</u> Drilling Fluid _____		
Depth from Surface	Description	
Feet to Feet	Describe material, grain size, color, etc.	
0	0.5	Coarse landscaping gravel
0.5	1	Well graded sand with gravel - brown
1	5	Clay - dark olive gray
5	5.5	Silty sand with gravel - olive gray
5.5	6	Clay with sand and gravel - olive brown
6	8.5	Silt - very dark greenish gray
8.5	9	Clay - olive
9	10	No recovery
10	12	Silt - very dark grayish brown
12	13	Silt - greenish black
13	13.5	Silty sand - greenish black
13.5	14.5	Clay - very dark greenish gray
14.5	15	Sandy silt - very dark greenish gray
15	15.5	Silty sand - very dark greenish gray
15.5	17	Poorly graded sand - dark olive brown
17	17.5	Silty sand - very dark grayish brown
17.5	20	No recovery
20	20.5	Clayey sand with gravel - olive
20.5	25	No recovery
25	26.5	Silty sand with gravel - dark olive brown
26.5	28	Well graded sand - olive brown
28	30	No recovery
30	32.5	Poorly graded sand - very dark brown
32.5	35	No recovery
35	36	Poorly graded sand - dark olive brown
36	37	Clay - olive brown
37	40	No recovery
40	42	Poorly graded sand - dark olive brown
42	45	No recovery
45	45.5	Poorly graded sand - olive brown
Total Depth of Boring		<u>65</u> Feet
Total Depth of Completed Well		<u>65</u> Feet

Well Owner	
Name	<u>U.S. Department of the Navy</u>
Mailing Address	<u>1455 Frazee Road, Suite 900</u>
City	<u>San Diego</u> State <u>CA</u> Zip <u>92108</u>

Well Location	
Address	<u>Site 28, Former Naval Air Station Moffett Field</u>
City	<u>Moffett Field</u> County <u>Santa Clara</u>
Latitude	____ N Longitude ____ W
Datum	____ Decimal Lat. ____ Decimal Long. ____
APN Book	____ Page ____ Parcel ____
Township	____ Range ____ Section ____



Activity
<input checked="" type="radio"/> New Well
<input type="radio"/> Modification/Repair
<input type="radio"/> Deepen
<input type="radio"/> Other _____
<input type="radio"/> Destroy
<small>Describe procedures and materials under "GEOLOGIC LOG"</small>

Planned Uses
<input type="radio"/> Water Supply
<input type="checkbox"/> Domestic <input type="checkbox"/> Public
<input type="checkbox"/> Irrigation <input type="checkbox"/> Industrial
<input type="radio"/> Cathodic Protection
<input type="radio"/> Dewatering
<input type="radio"/> Heat Exchange
<input type="radio"/> Injection
<input checked="" type="radio"/> Monitoring
<input type="radio"/> Remediation
<input type="radio"/> Sparging
<input type="radio"/> Test Well
<input type="radio"/> Vapor Extraction
<input type="radio"/> Other _____

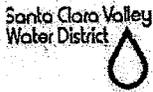
Water Level and Yield of Completed Well	
Depth to first water	____ (Feet below surface)
Depth to Static	____
Water Level	<u>4.48</u> (Feet) Date Measured <u>06/30/2010</u>
Estimated Yield *	____ (GPM) Test Type _____
Test Length	____ (Hours) Total Drawdown ____ (Feet)
*May not be representative of a well's long term yield.	

Casings							
Depth from Surface	Borehole Diameter	Type	Material	Wall Thickness	Outside Diameter	Screen Type	Slot Size if Any
Feet to Feet	(Inches)			(Inches)	(Inches)		(Inches)
0	55	8	Blank	PVC Sch. 40	0.154	2.375	
55	65	8	Screen	PVC Sch. 40	0.154	2.375	0.010

Annular Material			
Depth from Surface	Fill	Description	
Feet to Feet			
0	50.5	Cement	
50.5	53	Bentonite	Pellets
53	65	Filter Pack	#2/16 sand

Attachments
<input checked="" type="checkbox"/> Geologic Log
<input checked="" type="checkbox"/> Well Construction Diagram
<input type="checkbox"/> Geophysical Log(s)
<input type="checkbox"/> Soil/Water Chemical Analyses
<input type="checkbox"/> Other _____
<small>Attach additional information, if it exists.</small>

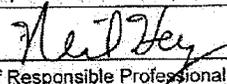
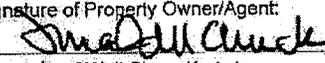
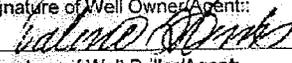
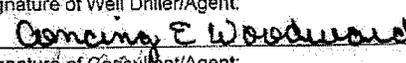
Certification Statement			
I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief			
Name <u>Woodward Drilling Co., INC.</u>			
Person, Firm or Corporation			
<u>550 River Road</u>	<u>Rio Vista</u>	<u>CA</u>	<u>94571</u>
Address		City	State Zip
Signed <u>Cecilia E Woodward</u>	<u>7-22-10</u>	<u>710079</u>	
C-57 Licensed Water Well Contractor		Date Signed	C-57 License Number



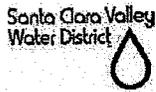
5750 Almaden Expressway
San Jose, CA 95118-3686
(408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 158 (05-07-08)
Page 1 of 2

TO BE COMPLETED BY DISTRICT		
District Permit No.: <u>10W00282</u>	Date Issued: <u>6/3/10</u>	Well Registration No.:
Geologic Setting: <u>1</u>	Expiration Date: <u>12/3/10</u>	Driller's Log No.: <u>E0111098</u>
TO BE COMPLETED BY OWNER AND DRILLER		
Well Owner: US Department of the Navy - BRAC	Property Owner: National Aeronautics & Space Administration	Name of Business at Well Site: National Aeronautics & Space Administration
Well Owner's Mailing Address: 1455 Frazee Road, Suite 900 City, State, Zip San Diego, CA 92108	Property Owner's Mailing Address: NASA Ames Research Center, Building 237, Room 115 City, State, Zip Moffett Field, CA 94035	Address of Well Site: IR Site 28, Former Naval Air Station Moffett Field City, State, Zip Moffett Field, CA 94035
Telephone No. & Contact Name: Valerie Harris (619) 532-0981	Telephone No. & Contact Name: Donald Chuck (650) 604-0237	Telephone No.: None
Owner's/Consultant's Well No.: <u>280W-04</u>	Assessor's Parcel No. of Well Site: <u>Book 116</u>	Page <u>18</u> Parcel <u>012</u>
Consultant (Company): Shaw Environmental, Inc.	Drilling Company: Woodward Drilling	
Address: <u>4005 Port Chicago Highway</u>	Address: <u>P.O. Box 336, 550 River Road</u>	
City, State, Zip <u>Concord, CA 94520-1120</u>	City, State, Zip <u>Rio Vista, CA 94571</u>	
Telephone No.: (925) 288-9898	Telephone No.: (707) 374-4300	C-57 License No.: 710079
<input type="checkbox"/> Check if address or phone number has changed	<input type="checkbox"/> Check if address or phone number has changed	
THIS SECTION TO BE COMPLETED FOR ALL MONITORING WELLS OR EXTRACTION/RECOVERY WELLS		
Case Name/No.:	Caseworker Name: <u>Alana Lee</u>	
Oversight Agency: <u>USEPA Region IX</u>	Caseworker Telephone No.: <u>(415) 972-3141</u>	
Type of Monitoring Device: <input checked="" type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	Signature of Responsible Professional  Neil Hey Print Name Civil Engineer Registration No. <u>PG 8006</u> OR Geologist Registration No. _____ <small>(No substitution of signature will be accepted)</small>	
Type of Extraction Device: <input type="checkbox"/> Groundwater <input type="checkbox"/> Vadose		
Monitoring Well Use: <input type="checkbox"/> Depth <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Chloride		
Nested/Multi-Level Well: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
NOTE: If Nested/Multi-Level Well is proposed, a separate permit is needed for each casing.		
Estimated Depth of Completed Well: <input type="checkbox"/> Less than 50 feet <input checked="" type="checkbox"/> 50 to 300 feet <input type="checkbox"/> Over 300 feet <input type="checkbox"/> Other: _____		
Purpose of Well: <input type="checkbox"/> Domestic <input type="checkbox"/> Municipal/Industrial <input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Monitoring <input type="checkbox"/> Cathodic Protection <input type="checkbox"/> Other: _____		
NOTE: Monitoring wells are those constructed for the purpose of obtaining repetitive water level measurements and/or repetitive air samples for analysis.		
Well is to be constructed: <input type="checkbox"/> In a public sidewalk <input type="checkbox"/> In a public road <input checked="" type="checkbox"/> On public property <input type="checkbox"/> On private property <input type="checkbox"/> On District property/easement* <input type="checkbox"/> Within 50 feet of the top of a creek bank or District facility		
Within 50 feet of sanitary sewer: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Within 50 feet of any existing well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Within 100 feet of a pit privy, septic tank, or leachfield: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Within 150 feet of a cesspool or seepage pit: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
*See General Condition F, page 2.	Other wells exist on this property? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, status: <input checked="" type="checkbox"/> Active <input type="checkbox"/> Inactive <input type="checkbox"/> Abandoned	
SIGNATURES		
I understand and agree that all work associated with this permit is required to be done in accordance with Santa Clara Valley Water District (District) Well Ordinance 90-1, the District Well Standards, and the conditions of this permit (see page 2). I certify that the information given in this permit is correct to the best of my knowledge and that the signature below, whether original, electronic, or photocopied, is authorized and valid, and is affixed with the intent to be enforceable. I also certify that a right of entry/encroachment agreement has been formalized between the well owner and property owner, if parties differ. I also understand that it is my responsibility, as the well owner, to notify the District of any changes in the purpose of this well, from which, is indicated on this application.		
Signature of Property Owner/Agent: 	Date: <u>5/21/2010</u>	Print Name of Property Owner/Agent: Donald M. Chuck
Signature of Well Owner/Agent: 	Date: <u>5/21/2010</u>	Print Name of Well Owner/Agent: Valerie Harris
Signature of Well Driller/Agent: 	Date: <u>5/24/2010</u>	Print Name of Driller/Agent: Wayne Woodward
Signature of Consultant/Agent: 	Date: <u>5/25/2010</u>	Print Name of Consultant/Agent: Neil Hey
IMPORTANT: A minimum 24-hour notice must be given to Santa Clara Valley Water District Well Inspection Department prior to installing the annular seal. Call (408) 265-2607, ext. 2660. For weekends, holidays, or after-hours, call (408) 265-2607, ext. 2120. Please allow 10 working days to process permit application.		

MAY 26 2010



5750 Almaden Expressway
San Jose, CA 95118-3686
(408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 158 (05-07-08)
Page 2 of 2

DISTRICT WELL PERMIT NO.: _____

Based on information on this application and attachment(s) hereto (if any) and subject to approval noted below, permission is hereby granted to construct (drill) the described well. Permission to start work may be withheld until a field check verifies all statements made on application by permittee and is also subject to the "General" and "Special" Conditions stated below.

SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH APPROVAL (Water Supply Well Only)

NOTE: Department of Environmental Health approval must be granted before this application will be accepted by Santa Clara Valley Water District.

Approved by:

, R.E.H.S

- Approved as submitted
- Approved as corrected

Date:

SITE PLAN

A 8½" x 11" paper site plan must be attached to this application, including:

1. Location of site features, including major buildings, landscaped areas, tank fields, existing wells, etc.
2. North arrow and scale
3. Location of proposed well with dimensions in feet from well to nearest cross streets.

GENERAL CONDITIONS

- A. District (telephone 408-265-2607, ext. 2660) must be notified a minimum of one working day before construction of the annular seal. An authorized District representative must be on site to witness the construction of the annular seal. This requirement may be waived by an authorized District representative. If the District waives the inspection requirement, the District may request the permittee(s) to furnish certification, under penalty of perjury, that the well was constructed in accordance with the District Well Standards and with the permit conditions.
- B. Permittee agrees to construct, operate, and maintain the well according to provisions of the latest District Ordinance and the latest published revisions of District Well Standards to the end that this well will not cause pollution or contamination of groundwater or otherwise jeopardize the health, safety, or welfare of the people of the District.
- C. This permit is valid only for the purpose specified herein. Well construction methods authorized under this permit may not be changed except by written approval of an authorized District representative, and only if the District believes that such a change will result in equal or superior compliance with the District and State Well Standards (e.g., if the District representative finds that site conditions warrant such a change).
- D. This permit is only valid for the Assessor's Parcel No. indicated on it.
- E. This permit may be voided if it contains incorrect information. If the permit is voided after work has begun, the well or boring that was constructed under this permit must be destroyed in accordance with District and State Well Standards.
- F. If any work associated with this permit will take place on District property/easement, an encroachment or construction permit must be granted by the District's Community Projects Review Unit (telephone 408-265-2607, ext. 2589).
- G. Before the well constructed under this permit can be used as a drinking water source, its use must be approved by the regulatory agency with authority over such use (typically the Santa Clara County Department of Environmental Health or the State of California Department of Public Health). A completed Well Inventory Form must also be approved.
- H. If the well constructed under this permit cannot be or is not being used for its intended purpose, permittee is hereby required to destroy the well according to the District Well Standards and under permit from the District. Any test holes drilled under this permit must be destroyed within 24 hours of completion of testing activities. Destruction activities must be completed according to District standards. District must be notified a minimum of 24 hours prior to destruction.
- I. Within 30 days of the completion of the well construction activities, the driller or consultant identified on this permit shall fully complete State of California DWR Form 188 and mail the original to the District's Wells and Water Production Unit.
- J. The permittee(s) shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend, and hold the District, its officers, agents, and employees, free and harmless from any and all expense, cost, and liability in connection with or resulting from the granting or exercise of this permit including, but not limited to, property damage, personal injury, and wrongful death.
- K. Permittees are required to be in full compliance with Cal/OSHA California Labor Code Section 6300.
- L. A current C-57 Water Well Drilling Contractor's License is required for the construction of all wells.
- M. Permittee, permittee's contractors, consultants, or agents shall be responsible to assure that all materials or waters generated during drilling, well construction, well development, pump testing, or other activities associated with this permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on- or off-site storm sewers, dry wells, or waterways. Such materials/waters must not be allowed to move off the property where the work is being completed.
- N. The driller and consultants (if applicable) shall have an active copy of their Worker's Compensation Insurance on file with District.
- O. This permit shall expire if not exercised within 180 calendar days of its approval, unless an extension of the permit expiration date is granted by an authorized District representative.
- P. This permit must be kept on site during all activities associated with it and shall immediately be presented to an authorized District representative upon request.

SPECIAL CONDITIONS

Community Projects Review Unit Approval (if needed):

CPRU Permit No.:

Approved by:

Date:

Please allow 10 working days to process this application.



Drilling Log

Monitoring Well **28OW-04**

Page: 1 of 4

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816
 Surface Elev.* 20.5 ft. Total Hole Depth 65 ft. bgs North* 1975943.6 East* 6110433.5
 Top of Casing* 20.32 ft. Water Level Initial NA Static ▼ 4.3 ft. Diameter 8 in.
 Screen: Dia 2 in. Length 10 ft. Type/Slot Size Sch 40 PVC/0.010 in.
 Casing: Dia 2 in. Length 55 ft. Type Sch 40 PVC
 Fill Material See Comments Rig/Core BK81
 Drill Co. Woodward Drilling Method Hollow Stem Auger
 Driller Amador Arroyo Log By Michael Glas Well Inst. Date 6/22/10 Permit # 10W00282
 Checked By Timothy Ripp License No. CHG 786

COMMENTS
Annular Seal
Cement Grout 0-50.5'
Plug
Bentonite Chips 50.5-53'
Filter Pack
#2/16 Sand 53-65'
Screened Interval
Machine Slotted Sch 40 PVC
55-65'

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0	8" Vault					Hand-augered to 5'
0 - 2	Sch 40 PVC 0-55'		100%		GP SW	Coarse landscaping gravel WELL GRADED SAND WITH GRAVEL, brown (2.5YR 4/2), 85% coarse to fine sand, 15% coarse to fine gravel, dry, angular to subangular
2 - 4	Cement grout 0-50.5'		100%		CL	CLAY, dark olive gray (5Y 3/2), dry, firm, semi-plastic
4 - 6			80%		SM CH	SILTY SAND WITH GRAVEL, olive gray (5Y 4/2), 50% coarse to fine sand, 30% silt, 20% fine gravel, wet, medium dense, angular
6 - 8			80%		ML	CLAY WITH SAND AND GRAVEL, olive brown (2.5Y 4/3), 80% clay, 20% fine gravel to fine sand, damp, soft, plastic SILT, very dark greenish gray (GLEY1 3/1), wet, soft, semi-plastic, iron oxide stained
8 - 10			100%		CL	CLAY, olive (5Y 4/3), 70% clay, 30% silt, moist, firm, semi-plastic
10 - 12			100%		ML	SILT, very dark grayish brown (2.5Y 3/2), 70% silt, 30% clay, moist, firm, semi-plastic, iron oxide stained
12 - 14			100%		SM CH ML	At 12': Greenish black (GLEY1 2.5/1) SILTY SAND, greenish black (GLEY1 2.5/1), 70% fine sand, 30% silt, wet, medium dense, rounded to subrounded CLAY, very dark greenish gray (GLEY1 3/1), 70% clay, 30% silt, moist, firm, plastic SANDY SILT, very dark greenish gray (GLEY1 3/1), 70% silt,

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

Continued Next Page

*CCS Zone 3, NAD83, NAVD88



Drilling Log

Monitoring Well **28OW-04**

Page: 2 of 4

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
16					ML	30% fine sand, damp, firm, non-plastic
					SP	At 15': 60% silt, 40% fine sand, trace fine gravel to medium sand, wet, medium dense, subangular to subrounded.
			50%		SM	POORLY GRADED SAND, dark olive brown (2.5Y 3/3), medium to fine sand, trace fine gravel to coarse sand, wet, loose, subrounded
18					SM	SILTY SAND, very dark grayish brown (2.5Y 3/2), 70% medium to fine sand, 30% silt, trace fine gravel to coarse sand, wet, dense, subrounded
20					SC	CLAYEY SAND WITH GRAVEL, olive (8Y 4/3), 50% coarse to fine sand, 25% fine gravel, 25% clay, wet, loose, angular to rounded
22			10%		SM	SILTY SAND WITH GRAVEL, dark olive brown (2.5Y 3/3), 60% coarse to fine sand, 25% fine gravel, 15% silt, wet, loose, subangular to subrounded
24					SM	
26					SW	WELL GRADED SAND, olive brown (2.5Y 4/3), 90% coarse to fine sand, 10% fine gravel, wet, loose, rounded to subrounded
28			60%		SW	
30					SP	POORLY GRADED SAND, very dark brown (10YR 2/2), medium sand, wet, loose, subangular to subrounded
32			50%		SP	At 31.5': very dark brown (10YR 2/2), coarse sand, trace medium sand, wet, loose, rounded to subrounded.
34						

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

Continued Next Page



Drilling Log

Monitoring Well **28OW-04**

Page: 3 of 4

Project Site IR28 Treatability Study Owner U.S. Navy

Location Former NAS Moffett Field, CA Proj. No. 133816

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
36					SP	At 35': dark olive brown (2.5Y 3/3), coarse to medium sand, wet, loose, subrounded. Fine gravel to medium sand.
38			40%		CH	CLAY, olive brown (2.5Y 4/4), trace sand, moist, firm, plastic
40						POORLY GRADED SAND, dark olive brown (2.5Y 3/3), medium to fine sand, wet, loose, rounded to subrounded
42			40%		SP	
44						
46					ML	At 45': olive brown (2.5Y 4/4), 85% medium to fine sand, 10% coarse sand, 5% silt, wet loose, rounded to subrounded. SANDY SILT, light olive brown (2.5Y 5/3), 70% silt, 30% coarse to fine sand, moist, firm, semi-plastic
48			60%		SM	SILTY SAND WITH GRAVEL, olive brown (2.5Y 4/3), 60% coarse to fine sand, 25% fine gravel, 15% silt, wet, loose, subangular to subrounded
					MH	SANDY SILT, olive (5Y 4/3), 70% silt, 30% fine sand, moist, hard, plastic
50						CLAY, olive (5Y 4/3), 60% clay, 40% silt, wet, soft, semi-plastic, iron oxide stained
52		Bentonite Chips 50.5-53'	40%		CL	

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

Continued Next Page



Drilling Log

Monitoring Well **28OW-04**

Page: 4 of 4

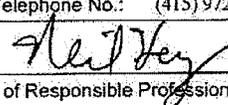
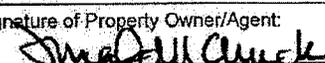
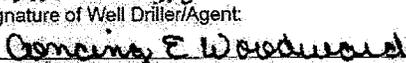
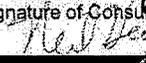
Project Site IR28 Treatability Study Owner U.S. Navy

Location Former NAS Moffett Field, CA Proj. No. 133816

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
54		#2/16 Sand 53-65'			SC	CLAYEY SAND, olive brown (2.5Y 4/4), 60% fine sand, 40% clay, wet, medium dense, rounded
56						CLAY, olive brown (2.5Y 4/3), trace sand, moist, firm, semi-elastic
58			60%		CL	
60	0.010" Sch 40 PVC 55-65'					At 60': olive brown (2.5Y 4/3), 70% clay, 30% silt, moist, hard, semi-plastic.
62			100%			
64					CH	CLAY, olive (5Y 4/3), damp, soft, plastic
					ML	SILT, olive gray (5Y 4/2), damp, hard, non-plastic, iron oxide stained
					SM	SILTY SAND, olive (5Y 4/3), 75% fine sand, 25% silt, wet, medium dense, rounded to subrounded
					ML	SILT, olive gray (5Y 4/2), damp, hard, non-plastic, iron oxide stained
66	Threaded cap with gasket					Boring terminated at 65 feet.
68						
70						
72						

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

WELL CONSTRUCTION APPLICATION

TO BE COMPLETED BY DISTRICT		
District Permit No.: <u>10W00281</u>	Date Issued: <u>6-3-10</u>	Well Registration No.:
Geologic Setting: <u>1</u>	Expiration Date: <u>12-3-10</u>	Driller's Log No.: <u>E0111097</u>
TO BE COMPLETED BY OWNER AND DRILLER		
Well Owner: US Department of the Navy - BRAC	Property Owner: National Aeronautics & Space Administration	Name of Business at Well Site: National Aeronautics & Space Administration
Well Owner's Mailing Address: 1455 Frazee Road, Suite 900 City, State, Zip San Diego, CA 92108	Property Owner's Mailing Address: NASA Ames Research Center, Building 237, Room 115 City, State, Zip Moffett Field, CA 94035	Address of Well Site: IR Site 28, Former Naval Air Station Moffett Field City, State, Zip Moffett Field, CA 94035
Telephone No. & Contact Name: Valeric Harris (619) 532-0981	Telephone No. & Contact Name: Donald Chuck (650) 604-0237	Telephone No.: None
Owner's/Consultant's Well No.: <u>280W-05</u>	Assessor's Parcel No. of Well Site:	Book <u>116</u> Page <u>18</u> Parcel <u>012</u>
Consultant (Company): Shaw Environmental, Inc.	Drilling Company: Woodward Drilling	
Address: 4005 Port Chicago Highway City, State, Zip Concord, CA 94520-1120	Address: P.O. Box 336, 550 River Road City, State, Zip Rio Vista, CA 94571	
Telephone No.: (925) 288-9898	Telephone No.: (707) 374-4300	C-57 License No.: 710079
<input type="checkbox"/> Check if address or phone number has changed	<input type="checkbox"/> Check if address or phone number has changed	
THIS SECTION TO BE COMPLETED FOR ALL MONITORING WELLS OR EXTRACTION/RECOVERY WELLS		
Case Name/No.:	Caseworker Name: <u>Alana Lee</u>	
Oversight Agency: <u>USEPA Region IX</u>	Caseworker Telephone No.: <u>(415) 972-3141</u>	
Type of Monitoring Device: <input checked="" type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	<div style="text-align: right;">  Signature of Responsible Professional Neil Hey Print Name _____ Civil Engineer Registration No. OR PG 8006 Geologist Registration No. </div> <div style="font-size: small; text-align: right;">(No substitution of signature will be accepted)</div>	
Type of Extraction Device: <input type="checkbox"/> Groundwater <input type="checkbox"/> Vadose		
Monitoring Well Use: <input type="checkbox"/> Depth <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Chloride		
Nested/Multi-Level Well: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
NOTE: If Nested/Multi-Level Well is proposed, a separate permit is needed for each casing.		
Estimated Depth of Completed Well: <input checked="" type="checkbox"/> Less than 50 feet <input type="checkbox"/> 50 to 300 feet <input type="checkbox"/> Over 300 feet <input type="checkbox"/> Other: _____		
Purpose of Well: <input type="checkbox"/> Domestic <input type="checkbox"/> Municipal/Industrial <input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Monitoring <input type="checkbox"/> Cathodic Protection <input type="checkbox"/> Other: _____		
NOTE: Monitoring wells are those constructed for the purpose of obtaining repetitive water level measurements and/or repetitive air samples for analysis.		
Well is to be constructed: <input type="checkbox"/> In a public sidewalk <input type="checkbox"/> In a public road <input checked="" type="checkbox"/> On public property <input type="checkbox"/> On private property <input type="checkbox"/> On District property/easement* <input type="checkbox"/> Within 50 feet of the top of a creek bank or District facility		
Within 50 feet of sanitary sewer: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Within 50 feet of any existing well:* <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Within 100 feet of a pit privy, septic tank, or leachfield: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Within 150 feet of a cesspool or seepage pit <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
*See General Condition F, page 2.	Other wells exist on this property? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, status: <input checked="" type="checkbox"/> Active <input type="checkbox"/> Inactive <input type="checkbox"/> Abandoned	
SIGNATURES		
I understand and agree that all work associated with this permit is required to be done in accordance with Santa Clara Valley Water District (District) Well Ordinance 90-1, the District Well Standards, and the conditions of this permit (see page 2). I certify that the information given in this permit is correct to the best of my knowledge and that the signature below, whether original, electronic, or photocopied, is authorized and valid, and is affixed with the intent to be enforceable. I also certify that a right of entry/encroachment agreement has been formalized between the well owner and property owner, if parties differ. I also understand that it is my responsibility, as the well owner, to notify the District of any changes in the purpose of this well, from which, is indicated on this application.		
Signature of Property Owner/Agent: 	Date: <u>5/21/2010</u>	Print Name of Property Owner/Agent: Donald M. Chuck
Signature of Well Owner/Agent: 	Date: <u>5/21/2010</u>	Print Name of Well Owner/Agent: Valeric Harris
Signature of Well Driller/Agent: 	Date: <u>5/24/2010</u>	Print Name of Driller/Agent: Wayne Woodward
Signature of Consultant/Agent: 	Date: <u>5/25/2010</u>	Print Name of Consultant/Agent: Neil Hey
<p>IMPORTANT: A minimum 24-hour notice must be given to Santa Clara Valley Water District Well Inspection Department prior to installing the annular seal. Call (408) 265-2607, ext. 2660. For weekends, holidays, or after-hours, call (408) 265-2607, ext. 2120. Please allow 10 working days to process permit application.</p>		

MAY 26 2010



WELL CONSTRUCTION APPLICATION

DISTRICT WELL PERMIT NO.: _____

Based on information on this application and attachment(s) hereto (if any) and subject to approval noted below, permission is hereby granted to construct (drill) the described well. Permission to start work may be withheld until a field check verifies all statements made on application by permittee and is also subject to the "General" and "Special" Conditions stated below.

SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH APPROVAL (Water Supply Well Only)

NOTE: Department of Environmental Health approval must be granted before this application will be accepted by Santa Clara Valley Water District.

Approved by:	R.E.H.S	<input type="checkbox"/> Approved as submitted
		<input type="checkbox"/> Approved as corrected
		Date:

SITE PLAN

A 8½" x 11" paper site plan **must** be attached to this application, including:

1. Location of site features, including major buildings, landscaped areas, tank fields, existing wells, etc.
2. North arrow and scale
3. Location of proposed well with dimensions in feet from well to nearest cross streets.

GENERAL CONDITIONS

- A. District (telephone 408-265-2607, ext. 2660) **must be notified a minimum of one working day before construction of the annular seal.** An authorized District representative must be on site to witness the construction of the annular seal. This requirement may be waived by an authorized District representative. If the District waives the inspection requirement, the District may request the permittee(s) to furnish certification, under penalty of perjury, that the well was constructed in accordance with the District Well Standards and with the permit conditions.
- B. Permittee agrees to construct, operate, and maintain the well according to provisions of the latest District Ordinance and the latest published revisions of District Well Standards to the end that this well will not cause pollution or contamination of groundwater or otherwise jeopardize the health, safety, or welfare of the people of the District.
- C. This permit is valid only for the purpose specified herein. Well construction methods authorized under this permit may not be changed except by written approval of an authorized District representative, and only if the District believes that such a change will result in equal or superior compliance with the District and State Well Standards (e.g., if the District representative finds that site conditions warrant such a change).
- D. This permit is only valid for the Assessor's Parcel No. indicated on it.
- E. This permit may be voided if it contains incorrect information. If the permit is voided after work has begun, the well or boring that was constructed under this permit must be destroyed in accordance with District and State Well Standards.
- F. If any work associated with this permit will take place on District property/easement, an encroachment or construction permit must be granted by the District's Community Projects Review Unit (telephone 408-265-2607, ext. 2589).
- G. Before the well constructed under this permit can be used as a drinking water source, its use must be approved by the regulatory agency with authority over such use (typically the Santa Clara County Department of Environmental Health or the State of California Department of Public Health). A completed Well Inventory Form must also be approved.
- H. If the well constructed under this permit cannot be or is not being used for its intended purpose, permittee is hereby required to destroy the well according to the District Well Standards and under permit from the District. Any test holes drilled under this permit must be destroyed within 24 hours of completion of testing activities. Destruction activities must be completed according to District standards. District must be notified a minimum of 24 hours prior to destruction.
- I. Within 30 days of the completion of the well construction activities, the driller or consultant identified on this permit shall fully complete State of California DWR Form 188 and mail the original to the District's Wells and Water Production Unit.
- J. The permittee(s) shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend, and hold the District, its officers, agents, and employees, free and harmless from any and all expense, cost, and liability in connection with or resulting from the granting or exercise of this permit including, but not limited to, property damage, personal injury, and wrongful death.
- K. Permittees are required to be in full compliance with Cal/OSHA California Labor Code Section 6300.
- L. A current C-57 Water Well Drilling Contractor's License is required for the construction of all wells.
- M. Permittee, permittee's contractors, consultants, or agents shall be responsible to assure that all materials or waters generated during drilling, well construction, well development, pump testing, or other activities associated with this permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on- or off-site storm sewers, dry wells, or waterways. Such materials/waters must not be allowed to move off the property where the work is being completed.
- N. The driller and consultants (if applicable) shall have an active copy of their Worker's Compensation Insurance on file with District.
- O. This permit shall expire if not exercised within 180 calendar days of its approval, unless an extension of the permit expiration date is granted by an authorized District representative.
- P. This permit must be kept on site during all activities associated with it and shall immediately be presented to an authorized District representative upon request.

SPECIAL CONDITIONS

Community Projects Review Unit Approval (if needed):	CPRU Permit No.:
Approved by:	Date:

Please allow 10 working days to process this application.



Drilling Log

Monitoring Well **28OW-05**

Page: 1 of 1

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816
 Surface Elev.* 20.3 ft. Total Hole Depth 17 ft. bgs North* 1975918.6 East* 6110444.7
 Top of Casing* 20.03 ft. Water Level Initial NA Static ▼ 4.4 ft. Diameter 8 in.
 Screen: Dia 2 in. Length 5 ft. Type/Slot Size Sch 40 PVC/0.010 in.
 Casing: Dia 2 in. Length 12 ft. Type Sch 40 PVC
 Fill Material See Comments Rig/Core BK81
 Drill Co. Woodward Drilling Method Hollow Stem Auger
 Driller Amador Arroyo Log By Michael Glas Well Inst. Date 6/23/10 Permit # 10W00281
 Checked By Timothy Ripp License No. CHG 786

COMMENTS
Annular Seal
Cement Grout 0-8'
Plug
Bentonite Chips 8-10'
Filter Pack
#2/16 Sand 10-17'
Screened Interval
Machine Slotted Sch 40 PVC
12-17'

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0		8" Vault				See log 280W-12 for lithologic information.
2		Sch 40 PVC 0-12'				
4		Cement grout 0-8'				
6						
8		Bentonite Chips 8-10'				
10		#2/16 Sand 10-17'				
12						
14		0.010" Sch 40 PVC 12-17'				
16						
18		Threaded cap with gasket				
20						

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

*CCS Zone 3, NAD83, NAVD88

File Original with DWR

State of California

Well Completion Report

Refer to Instruction Pamphlet

Page 1 of 1

Owner's Well Number 28OW-06

No. ~~XXXXXX~~ e0111096

Date Work Began 06/23/2010

Date Work Ended 6/23/2010

Local Permit Agency Santa Clara Valley Water District

Permit Number 10W00280

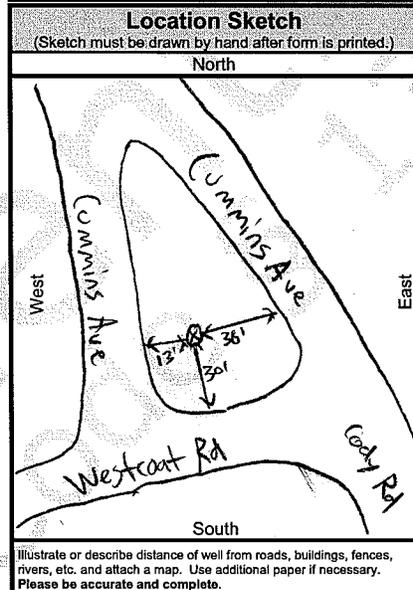
Permit Date 6/3/10

DWR Use Only - Do Not Fill In

State Well Number/Site Number	
N	W
Latitude	Longitude
APN/TRS/Other	

Geologic Log		
Orientation <input checked="" type="radio"/> Vertical <input type="radio"/> Horizontal <input type="radio"/> Angle Specify _____		
Drilling Method <u>Hollow Stem Auger</u> Drilling Fluid _____		
Depth from Surface	Description	
Feet to Feet	Describe material, grain size, color, etc	
0	0,5	Coarse landscaping gravel
0,5	1	Well graded sand with gravel - olive
1	5	Clay - very dark grayish brown
5	6,5	Clay - dark greenish gray
6.5	8	Silt - olive gray
8	10	Clay - olive brown
10	12	Silt - dark olive brown
12	12,5	Silt - very dark greenish gray
12.5	15	No recovery
15	15,5	Silt - very dark greenish gray
15.5	16	Silty sand - greenish black
16	18,5	Clay - very dark greenish gray
18.5	19	Silty sand - dark olive gray
19	19,5	Silt - olive gray
19.5	20	No recovery
20	21	Clay - dark grayish brown
21	22,5	Silty sand - olive brown
22.5	23	Clay - light olive brown
23	25	Clay - olive brown
25	27,5	Clay - light olive brown
27.5	28,5	Silty sand - olive
28.5	29	Poorly graded sand - olive brown
Total Depth of Boring <u>29</u> Feet		
Total Depth of Completed Well <u>29</u> Feet		

Well Owner	
Name	<u>U.S. Department of the Navy</u>
Mailing Address	<u>1455 Frazee Road, Suite 900</u>
City	<u>San Diego</u> State <u>CA</u> Zip <u>92108</u>
Well Location	
Address	<u>Site 28, Former Naval Air Station Moffett Field</u>
City	<u>Moffett Field</u> County <u>Santa Clara</u>
Latitude	____ N Longitude ____ W
Datum	Decimal Lat. _____ Decimal Long. _____
APN Book	Page _____ Parcel _____
Township	Range _____ Section _____



Activity
<input checked="" type="radio"/> New Well
<input type="radio"/> Modification/Repair
<input type="radio"/> Deepen
<input type="radio"/> Other _____
<input type="radio"/> Destroy
<small>Describe procedures and materials under "GEOLOGIC LOG"</small>
Planned Uses
<input type="radio"/> Water Supply
<input type="checkbox"/> Domestic <input type="checkbox"/> Public
<input type="checkbox"/> Irrigation <input type="checkbox"/> Industrial
<input type="radio"/> Cathodic Protection
<input type="radio"/> Dewatering
<input type="radio"/> Heat Exchange
<input type="radio"/> Injection
<input checked="" type="radio"/> Monitoring
<input type="radio"/> Remediation
<input type="radio"/> Sparging
<input type="radio"/> Test Well
<input type="radio"/> Vapor Extraction
<input type="radio"/> Other _____

Water Level and Yield of Completed Well	
Depth to first water _____	(Feet below surface)
Depth to Static _____	
Water Level _____	(Feet) Date Measured _____
Estimated Yield * _____	(GPM) Test Type _____
Test Length _____	(Hours) Total Drawdown _____ (Feet)
*May not be representative of a well's long term yield.	

Casings								
Depth from Surface	Borehole Diameter	Type	Material	Wall Thickness	Outside Diameter	Screen Type	Slot Size if Any	
Feet to Feet	(Inches)			(Inches)	(Inches)		(Inches)	
0	24	8	Blank	PVC Sch. 40	0.154	2.375		
24	29	8	Screen	PVC Sch. 40	0.154	2.375	Slots	0.010

Annular Material		
Depth from Surface	Fill	Description
Feet to Feet		
0	20	Cement
20	22	Bentonite
22	29	Filter Pack #2/16 sand

Attachments
<input checked="" type="checkbox"/> Geologic Log
<input checked="" type="checkbox"/> Well Construction Diagram
<input type="checkbox"/> Geophysical Log(s)
<input type="checkbox"/> Soil/Water Chemical Analyses
<input type="checkbox"/> Other _____
<small>Attach additional information, if it exists.</small>

Certification Statement	
I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief	
Name <u>Woodward Drilling Co., INC.</u>	
Person, Firm or Corporation	
<u>550 River Road</u>	<u>Rio Vista</u> <u>CA</u> <u>94571</u>
Address	City State Zip
Signed <u>Carmen E. Woodward</u>	<u>7-22-10</u> <u>710079</u>
C-57 Licensed Water Well Contractor	Date Signed C-57 License Number

WELL CONSTRUCTION APPLICATION

TO BE COMPLETED BY DISTRICT

District Permit No.: <u>10W00280</u>	Date Issued: <u>6/3/10</u>	Well Registration No.:
Geologic Setting: <u>1</u>	Expiration Date: <u>12/3/10</u>	Driller's Log No.: <u>E011096</u>

TO BE COMPLETED BY OWNER AND DRILLER

Well Owner: US Department of the Navy - BRAC	Property Owner: National Aeronautics & Space Administration	Name of Business at Well Site: National Aeronautics & Space Administration
Well Owner's Mailing Address: 1455 Frazee Road, Suite 900 City, State, Zip San Diego, CA 92108	Property Owner's Mailing Address: NASA Ames Research Center, Building 237, Room 115 City, State, Zip Moffett Field, CA 94035	Address of Well Site: IR Site 28, Former Naval Air Station Moffett Field City, State, Zip Moffett Field, CA 94035
Telephone No. & Contact Name: Valerie Harris (619) 532-0981	Telephone No. & Contact Name: Donald Chuck (650) 604-0237	Telephone No.: None

Owner's/Consultant's Well No.: 280W-06 Assessor's Parcel No. of Well Site: Book 116 Page 18 Parcel 012

Consultant (Company): Shaw Environmental, Inc.	Drilling Company: Woodward Drilling
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Address: 4005 Port Chicago Highway City, State, Zip Concord, CA 94520-1120	Address: P.O. Box 336, 550 River Road City, State, Zip Rio Vista, CA 94571
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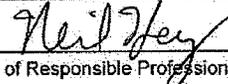
Telephone No.: (925) 288-9898	Telephone No.: (707) 374-4300	C-57 License No.: 710079
----------------------------------	----------------------------------	-----------------------------

Check if address or phone number has changed Check if address or phone number has changed

THIS SECTION TO BE COMPLETED FOR ALL MONITORING WELLS OR EXTRACTION/RECOVERY WELLS

Case Name/No.: _____ Caseworker Name: Alana Lee

Oversight Agency: USEPA Region IX Caseworker Telephone No.: (415) 972-3141

Type of Monitoring Device: <input checked="" type="checkbox"/> Groundwater <input type="checkbox"/> Vadose Type of Extraction Device: <input type="checkbox"/> Groundwater <input type="checkbox"/> Vadose Monitoring Well Use: <input type="checkbox"/> Depth <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Chloride Nested/Multi-Level Well: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No NOTE: If Nested/Multi-Level Well is proposed, a separate permit is needed for each casing.	(No substitution of signature will be accepted)  Signature of Responsible Professional Neil Hey Print Name _____ OR _____ Civil Engineer Registration No. Geologist Registration No.
--	--

Estimated Depth of Completed Well: Less than 50 feet 50 to 300 feet Over 300 feet Other: _____

Purpose of Well: Domestic Municipal/Industrial Agricultural Monitoring Cathodic Protection Other: _____

NOTE: Monitoring wells are those constructed for the purpose of obtaining repetitive water level measurements and/or repetitive air samples for analysis.

Well is to be constructed: In a public sidewalk In a public road On public property On private property On District property/easement*
 Within 50 feet of the top of a creek bank or District facility

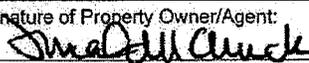
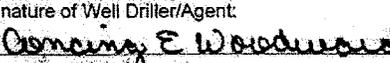
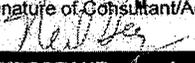
Within 50 feet of sanitary sewer: Yes No Within 50 feet of any existing well: Yes No

Within 100 feet of a pit privy, septic tank, or leachfield: Yes No Within 150 feet of a cesspool or seepage pit Yes No

*See General Condition F, page 2. Other wells exist on this property? Yes No If yes, status: Active Inactive Abandoned

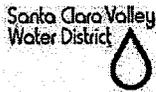
SIGNATURES

I understand and agree that all work associated with this permit is required to be done in accordance with Santa Clara Valley Water District (District) Well Ordinance 90-1, the District Well Standards, and the conditions of this permit (see page 2). I certify that the information given in this permit is correct to the best of my knowledge and that the signature below, whether original, electronic, or photocopied, is authorized and valid, and is affixed with the intent to be enforceable. I also certify that a right of entry/encroachment agreement has been formalized between the well owner and property owner, if parties differ. I also understand that it is my responsibility, as the well owner, to notify the District of any changes in the purpose of this well, from which, is indicated on this application.

Signature of Property Owner/Agent: 	Date: <u>5/21/2010</u>	Print Name of Property Owner/Agent: Donald M. Chuck
Signature of Well Owner/Agent: 	Date: <u>5/21/2010</u>	Print Name of Well Owner/Agent: Valerie Harris
Signature of Well Driller/Agent: 	Date: <u>5/24/2010</u>	Print Name of Driller/Agent: Wayne Woodward
Signature of Consultant/Agent: 	Date: <u>5/25/2010</u>	Print Name of Consultant/Agent: Neil Hey

IMPORTANT: A minimum 24-hour notice must be given to Santa Clara Valley Water District Well Inspection Department prior to installing the annular seal. Call (408) 265-2607, ext. 2660. For weekends, holidays, or after-hours, call (408) 265-2607, ext. 2120. Please allow 10 working days to process permit application.

MAY 25 2010



5750 Almaden Expressway
San Jose, CA 95118-3686
(408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 158 (05-07-08)
Page 2 of 2

DISTRICT WELL PERMIT NO.: _____

Based on information on this application and attachment(s) hereto (if any) and subject to approval noted below, permission is hereby granted to construct (drill) the described well. Permission to start work may be withheld until a field check verifies all statements made on application by permittee and is also subject to the "General" and "Special" Conditions stated below.

SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH APPROVAL (Water Supply Well Only)

NOTE: Department of Environmental Health approval must be granted before this application will be accepted by Santa Clara Valley Water District.

Approved by:

R.E.H.S

- Approved as submitted
- Approved as corrected

Date:

SITE PLAN

- A 8½" x 11" paper site plan must be attached to this application, including:
1. Location of site features, including major buildings, landscaped areas, tank fields, existing wells, etc.
 2. North arrow and scale
 3. Location of proposed well with dimensions in feet from well to nearest cross streets.

GENERAL CONDITIONS

- A. District (telephone 408-265-2607, ext. 2660) must be notified a minimum of one working day before construction of the annular seal. An authorized District representative must be on site to witness the construction of the annular seal. This requirement may be waived by an authorized District representative. If the District waives the inspection requirement, the District may request the permittee(s) to furnish certification, under penalty of perjury, that the well was constructed in accordance with the District Well Standards and with the permit conditions.
- B. Permittee agrees to construct, operate, and maintain the well according to provisions of the latest District Ordinance and the latest published revisions of District Well Standards to the end that this well will not cause pollution or contamination of groundwater or otherwise jeopardize the health, safety, or welfare of the people of the District.
- C. This permit is valid only for the purpose specified herein. Well construction methods authorized under this permit may not be changed except by written approval of an authorized District representative, and only if the District believes that such a change will result in equal or superior compliance with the District and State Well Standards (e.g., if the District representative finds that site conditions warrant such a change).
- D. This permit is only valid for the Assessor's Parcel No. indicated on it.
- E. This permit may be voided if it contains incorrect information. If the permit is voided after work has begun, the well or boring that was constructed under this permit must be destroyed in accordance with District and State Well Standards.
- F. If any work associated with this permit will take place on District property/easement, an encroachment or construction permit must be granted by the District's Community Projects Review Unit (telephone 408-265-2607, ext. 2589).
- G. Before the well constructed under this permit can be used as a drinking water source, its use must be approved by the regulatory agency with authority over such use (typically the Santa Clara County Department of Environmental Health or the State of California Department of Public Health). A completed Well Inventory Form must also be approved.
- H. If the well constructed under this permit cannot be or is not being used for its intended purpose, permittee is hereby required to destroy the well according to the District Well Standards and under permit from the District. Any test holes drilled under this permit must be destroyed within 24 hours of completion of testing activities. Destruction activities must be completed according to District standards. District must be notified a minimum of 24 hours prior to destruction.
- I. Within 30 days of the completion of the well construction activities, the driller or consultant identified on this permit shall fully complete State of California DWR Form 188 and mail the original to the District's Wells and Water Production Unit.
- J. The permittee(s) shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend, and hold the District, its officers, agents, and employees, free and harmless from any and all expense, cost, and liability in connection with or resulting from the granting or exercise of this permit including, but not limited to, property damage, personal injury, and wrongful death.
- K. Permittees are required to be in full compliance with Cal/OSHA California Labor Code Section 6300.
- L. A current C-57 Water Well Drilling Contractor's License is required for the construction of all wells.
- M. Permittee, permittee's contractors, consultants, or agents shall be responsible to assure that all materials or waters generated during drilling, well construction, well development, pump testing, or other activities associated with this permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on- or off-site storm sewers, dry wells, or waterways. Such materials/waters must not be allowed to move off the property where the work is being completed.
- N. The driller and consultants (if applicable) shall have an active copy of their Worker's Compensation Insurance on file with District.
- O. This permit shall expire if not exercised within 180 calendar days of its approval, unless an extension of the permit expiration date is granted by an authorized District representative.
- P. This permit must be kept on site during all activities associated with it and shall immediately be presented to an authorized District representative upon request.

SPECIAL CONDITIONS

Community Projects Review Unit Approval (if needed):	CPRU Permit No.:
Approved by:	Date:

Please allow 10 working days to process this application.



Drilling Log

Monitoring Well **28OW-06**

Page: 1 of 1

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816
 Surface Elev.* 20.4 ft. Total Hole Depth 29 ft. bgs North* 1975918.3 East* 6110439.4
 Top of Casing* 19.79 ft. Water Level Initial NA Static ▼ 3.9 ft. Diameter 8 in.
 Screen: Dia 2 in. Length 5 ft. Type/Slot Size Sch 40 PVC/0.010 in.
 Casing: Dia 2 in. Length 24 ft. Type Sch 40 PVC
 Fill Material See Comments Rig/Core BK81
 Drill Co. Woodward Drilling Method Hollow Stem Auger
 Driller Amador Arroyo Log By Michael Glas Well Inst. Date 6/23/10 Permit # 10W00280
 Checked By Timothy Ripp License No. CHG 786

COMMENTS
Annular Seal
Cement Grout 0-20'
Plug
Bentonite Chips 20-22'
Filter Pack
#2/16 Sand 22-29'
Screened Interval
Machine Slotted Sch 40 PVC
24-29'

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0		8" Vault				See log 28OW-12 for lithologic information.
2		Sch 40 PVC 0-24'				
4		Cement grout 0-20'				
6						
8						
10						
12						
14						
16						
18						
20		Bentonite Chips 20-22'				
22		#2/16 Sand 22-29'				
24						
26		0.010" Sch 40 PVC 24-29'				
28						
30		Threaded cap with gasket				

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

*CCS Zone 3, NAD83, NAVD88

*The free Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a saved form.

File Original with DWR

State of California

Well Completion Report

Refer to Instruction Pamphlet
No. ~~XXXXXX~~ 2011094

Page 1 of 1

Owner's Well Number 28OW-07

Date Work Began 06/24/2010

Date Work Ended 6/24/2010

Local Permit Agency Santa Clara Valley Water District

Permit Number 10W00279

Permit Date 6/3/10

DWR Use Only - Do Not Fill In

State Well Number/Site Number									
Latitude					Longitude				
APN/TRS/Other									

Geologic Log		
Orientation	Specify	
<input checked="" type="radio"/> Vertical	<input type="radio"/> Horizontal	<input type="radio"/> Angle
Drilling Method	Drilling Fluid	
Hollow Stem Auger		
Depth from Surface	Description	
Feet to Feet	Describe material, grain size, color, etc	
0	0.5	Coarse landscaping gravel
0.5	1	Well graded sand with gravel - olive
1	5	Clay - very dark grayish brown
5	6.5	Clay - dark greenish gray
6.5	8	Silt - olive gray
8	10	Clay - olive brown
10	12	Silt - dark olive brown
12	12.5	Silt - very dark greenish gray
12.5	15	No recovery
15	15.5	Silt - very dark greenish gray
15.5	16	Silty sand - greenish black
16	18.5	Clay - very dark greenish gray
18.5	19	Silty sand - dark olive gray
19	19.5	Silt - olive gray
19.5	20	No recovery
20	21	Clay - dark grayish brown
21	22.5	Silty sand - olive brown
22.5	23	Clay - light olive brown
23	25	Clay - olive brown
25	27.5	Clay - light olive brown
27.5	28.5	Silty sand - olive
28.5	29	Poorly graded sand - olive brown
29	30	Well graded sand - olive brown
30	32	Well graded sand - very dark grayish brown
32	33	Silty sand - olive brown
33	35	No recovery
35	36.5	Poorly graded sand - olive brown
36.5	40	No recovery
40	50	Clay - olive

Total Depth of Boring 50 Feet

Total Depth of Completed Well 50 Feet

Well Owner		
Name	<u>U.S. Department of the Navy</u>	
Mailing Address	<u>1455 Frazee Road, Suite 900</u>	
City	State	Zip
<u>San Diego</u>	<u>CA</u>	<u>92108</u>
Well Location		
Address	<u>Site 28, Former Naval Air Station Moffett Field</u>	
City	County	
<u>Moffett Field</u>	<u>Santa Clara</u>	
Latitude	N Longitude <u>W</u>	
Dea. Min. Sec.	Dea. Min. Sec.	
Datum	Decimal Lat.	Decimal Long.
APN Book	Page	Parcel
Township	Range	Section

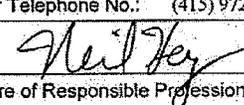
Location Sketch		Activity
(Sketch must be drawn by hand after form is printed.)		<input checked="" type="radio"/> New Well
		<input type="radio"/> Modification/Repair
		<input type="radio"/> Deepen
		<input type="radio"/> Other
		<input type="radio"/> Destroy
		Describe procedures and materials under "GEOLOGIC LOG"
Planned Uses		<input type="radio"/> Water Supply
		<input type="checkbox"/> Domestic <input type="checkbox"/> Public
		<input type="checkbox"/> Irrigation <input type="checkbox"/> Industrial
		<input type="radio"/> Cathodic Protection
		<input type="radio"/> Dewatering
		<input type="radio"/> Heat Exchange
		<input type="radio"/> Injection
		<input checked="" type="radio"/> Monitoring
		<input type="radio"/> Remediation
		<input type="radio"/> Sparging
		<input type="radio"/> Test Well
		<input type="radio"/> Vapor Extraction
		<input type="radio"/> Other

Water Level and Yield of Completed Well		
Depth to first water	(Feet below surface)	
Depth to Static		
Water Level <u>3.8</u>	(Feet)	Date Measured <u>06/30/2010</u>
Estimated Yield *	(GPM)	Test Type
Test Length	(Hours)	Total Drawdown (Feet)
*May not be representative of a well's long term yield.		

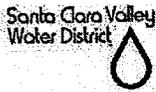
Casings								Annular Material			
Depth from Surface	Borehole Diameter	Type	Material	Wall Thickness	Outside Diameter	Screen Type	Slot Size if Any	Depth from Surface	Fill	Description	
Feet to Feet	(Inches)			(Inches)	(Inches)		(Inches)	Feet to Feet			
0	40	8	Blank	PVC Sch. 40	0.154	2.375		0	36	Cement	
40	50	8	Screen	PVC Sch. 40	0.154	2.375	Slots	0.010	36	Bentonite	Pellets
									38	Filter Pack	#2/16 sand

Attachments	Certification Statement
<input checked="" type="checkbox"/> Geologic Log <input checked="" type="checkbox"/> Well Construction Diagram <input type="checkbox"/> Geophysical Log(s) <input type="checkbox"/> Soil/Water Chemical Analyses <input type="checkbox"/> Other	<p>I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief</p> <p>Name <u>Woodward Drilling Co., INC.</u></p> <p>Person, Firm or Corporation</p> <p><u>550 River Road</u> Address <u>Rio Vista</u> City <u>CA</u> <u>94571</u> State Zip</p> <p>Signed <u>Cynthia E. Woodward</u> Date Signed <u>6-22-10</u> <u>210079</u> C-57 License Number</p>

WELL CONSTRUCTION APPLICATION

TO BE COMPLETED BY DISTRICT		
District Permit No.: <u>10W00279</u>	Date Issued: <u>6/3/10</u>	Well Registration No.:
Geologic Setting: <u>1</u>	Expiration Date: <u>12/3/10</u>	Driller's Log No.: <u>E011094</u>
TO BE COMPLETED BY OWNER AND DRILLER		
Well Owner: US Department of the Navy - BRAC	Property Owner: National Aeronautics & Space Administration	Name of Business at Well Site: National Aeronautics & Space Administration
Well Owner's Mailing Address: 1455 Frazee Road, Suite 900 City, State, Zip San Diego, CA 92108	Property Owner's Mailing Address: NASA Ames Research Center, Building 237, Room 115 City, State, Zip Moffett Field, CA 94035	Address of Well Site: IR Site 28, Former Naval Air Station Moffett Field City, State, Zip Moffett Field, CA 94035
Telephone No. & Contact Name: Valerie Harris (619) 532-0981	Telephone No. & Contact Name: Donald Chuck (650) 604-0237	Telephone No.: None
Owner's/Consultant's Well No.: <u>28OW-07</u>	Assessor's Parcel No. of Well Site:	Book <u>116</u> Page <u>18</u> Parcel <u>012</u>
Consultant (Company): Shaw Environmental, Inc.	Drilling Company: Woodward Drilling	
Address: 4005 Port Chicago Highway City, State, Zip Concord, CA 94520-1120	Address: P.O. Box 336, 550 River Road City, State, Zip Rio Vista, CA 94571	
Telephone No.: (925) 288-9898	Telephone No.: (707) 374-4300	C-57 License No.: 710079
<input type="checkbox"/> Check if address or phone number has changed	<input type="checkbox"/> Check if address or phone number has changed	
THIS SECTION TO BE COMPLETED FOR ALL MONITORING WELLS OR EXTRACTION/RECOVERY WELLS		
Case Name/No.:	Caseworker Name: <u>Alana Lee</u>	
Oversight Agency: <u>USEPA Region IX</u>	Caseworker Telephone No.: <u>(415) 972-3141</u>	
Type of Monitoring Device: <input checked="" type="checkbox"/> Groundwater <input type="checkbox"/> Vadose Type of Extraction Device: <input type="checkbox"/> Groundwater <input type="checkbox"/> Vadose Monitoring Well Use: <input type="checkbox"/> Depth <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Chloride Nested/Multi-Level Well: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	 Signature of Responsible Professional Neil Hey Print Name _____ Civil Engineer Registration No. OR PG 8006 Geologist Registration No.	
NOTE: If Nested/Multi-Level Well is proposed, a separate permit is needed for each casing.		
Estimated Depth of Completed Well: <input type="checkbox"/> Less than 50 feet <input checked="" type="checkbox"/> 50 to 300 feet <input type="checkbox"/> Over 300 feet <input type="checkbox"/> Other: _____		
Purpose of Well: <input type="checkbox"/> Domestic <input type="checkbox"/> Municipal/Industrial <input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Monitoring <input type="checkbox"/> Cathodic Protection <input type="checkbox"/> Other: _____		
NOTE: Monitoring wells are those constructed for the purpose of obtaining repetitive water level measurements and/or repetitive air samples for analysis.		
Well is to be constructed: <input type="checkbox"/> In a public sidewalk <input type="checkbox"/> In a public road <input checked="" type="checkbox"/> On public property <input type="checkbox"/> On private property <input type="checkbox"/> On District property/easement* <input type="checkbox"/> Within 50 feet of the top of a creek bank or District facility		
Within 50 feet of sanitary sewer: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Within 50 feet of any existing well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Within 100 feet of a pit privy, septic tank, or leachfield: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Within 150 feet of a cesspool or seepage pit: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
*See General Condition F, page 2.	Other wells exist on this property? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, status: <input checked="" type="checkbox"/> Active <input type="checkbox"/> Inactive <input type="checkbox"/> Abandoned	
SIGNATURES		
I understand and agree that all work associated with this permit is required to be done in accordance with Santa Clara Valley Water District (District) Well Ordinance 90-1, the District Well Standards, and the conditions of this permit (see page 2). I certify that the information given in this permit is correct to the best of my knowledge and that the signature below, whether original, electronic, or photocopied, is authorized and valid, and is affixed with the intent to be enforceable. I also certify that a right of entry/encroachment agreement has been formalized between the well owner and property owner, if parties differ. I also understand that it is my responsibility, as the well owner, to notify the District of any changes in the purpose of this well, from which, is indicated on this application.		
Signature of Property Owner/Agent: <u>Donald M. Chuck</u>	Date: <u>5/21/2010</u>	Print Name of Property Owner/Agent: Donald M. Chuck
Signature of Well Owner/Agent: <u>Valerie Harris</u>	Date: <u>5/21/2010</u>	Print Name of Well Owner/Agent: Valerie Harris
Signature of Well Driller/Agent: <u>Wayne Woodward</u>	Date: <u>5/24/2010</u>	Print Name of Driller/Agent: Wayne Woodward
Signature of Consultant/Agent: <u>Neil Hey</u>	Date: <u>5/25/2010</u>	Print Name of Consultant/Agent: Neil Hey
IMPORTANT: A minimum 24-hour notice must be given to Santa Clara Valley Water District Well Inspection Department prior to installing the annular seal. Call (408) 265-2607, ext. 2660. For weekends, holidays, or after-hours, call (408) 265-2607, ext. 2120. Please allow 10 working days to process permit application.		

MAY 26 2010



5750 Almaden Expressway
San Jose, CA 95118-3686
(408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 158 (05-07-08)
Page 2 of 2

DISTRICT WELL PERMIT NO.: _____

Based on information on this application and attachment(s) hereto (if any) and subject to approval noted below, permission is hereby granted to construct (drill) the described well. Permission to start work may be withheld until a field check verifies all statements made on application by permittee and is also subject to the "General" and "Special" Conditions stated below.

SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH APPROVAL (Water Supply Well Only)

NOTE: Department of Environmental Health approval must be granted before this application will be accepted by Santa Clara Valley Water District.

Approved by:	R.E.H.S	<input type="checkbox"/> Approved as submitted
		<input type="checkbox"/> Approved as corrected
		Date:

SITE PLAN

- A 8½" x 11" paper site plan must be attached to this application, including:
1. Location of site features, including major buildings, landscaped areas, tank fields, existing wells, etc.
 2. North arrow and scale
 3. Location of proposed well with dimensions in feet from well to nearest cross streets.

GENERAL CONDITIONS

- A. District (telephone 408-265-2607, ext. 2660) must be notified a minimum of one working day before construction of the annular seal. An authorized District representative must be on site to witness the construction of the annular seal. This requirement may be waived by an authorized District representative. If the District waives the inspection requirement, the District may request the permittee(s) to furnish certification, under penalty of perjury, that the well was constructed in accordance with the District Well Standards and with the permit conditions.
- B. Permittee agrees to construct, operate, and maintain the well according to provisions of the latest District Ordinance and the latest published revisions of District Well Standards to the end that this well will not cause pollution or contamination of groundwater or otherwise jeopardize the health, safety, or welfare of the people of the District.
- C. This permit is valid only for the purpose specified herein. Well construction methods authorized under this permit may not be changed except by written approval of an authorized District representative, and only if the District believes that such a change will result in equal or superior compliance with the District and State Well Standards (e.g., if the District representative finds that site conditions warrant such a change).
- D. This permit is only valid for the Assessor's Parcel No. indicated on it.
- E. This permit may be voided if it contains incorrect information. If the permit is voided after work has begun, the well or boring that was constructed under this permit must be destroyed in accordance with District and State Well Standards.
- F. If any work associated with this permit will take place on District property/easement, an encroachment or construction permit must be granted by the District's Community Projects Review Unit (telephone 408-265-2607, ext. 2589).
- G. Before the well constructed under this permit can be used as a drinking water source, its use must be approved by the regulatory agency with authority over such use (typically the Santa Clara County Department of Environmental Health or the State of California Department of Public Health). A completed Well Inventory Form must also be approved.
- H. If the well constructed under this permit cannot be or is not being used for its intended purpose, permittee is hereby required to destroy the well according to the District Well Standards and under permit from the District. Any test holes drilled under this permit must be destroyed within 24 hours of completion of testing activities. Destruction activities must be completed according to District standards. District must be notified a minimum of 24 hours prior to destruction.
- I. Within 30 days of the completion of the well construction activities, the driller or consultant identified on this permit shall fully complete State of California DWR Form 188 and mail the original to the District's Wells and Water Production Unit.
- J. The permittee(s) shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend, and hold the District, its officers, agents, and employees, free and harmless from any and all expense, cost, and liability in connection with or resulting from the granting or exercise of this permit including, but not limited to, property damage, personal injury, and wrongful death.
- K. Permittees are required to be in full compliance with Cal/OSHA California Labor Code Section 6300.
- L. A current C-57 Water Well Drilling Contractor's License is required for the construction of all wells.
- M. Permittee, permittee's contractors, consultants, or agents shall be responsible to assure that all materials or waters generated during drilling, well construction, well development, pump testing, or other activities associated with this permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on- or off-site storm sewers, dry wells, or waterways. Such materials/waters must not be allowed to move off the property where the work is being completed.
- N. The driller and consultants (if applicable) shall have an active copy of their Worker's Compensation insurance on file with District.
- O. This permit shall expire if not exercised within 180 calendar days of its approval, unless an extension of the permit expiration date is granted by an authorized District representative.
- P. This permit must be kept on site during all activities associated with it and shall immediately be presented to an authorized District representative upon request.

SPECIAL CONDITIONS

Community Projects Review Unit Approval (if needed):	CPRU Permit No.:
Approved by:	Date:

Please allow 10 working days to process this application.



Drilling Log

Monitoring Well **28OW-07**

Page: 1 of 1

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816
 Surface Elev.* 20.4 ft. Total Hole Depth 50 ft. bgs North* 1975918.5 East* 6110442.0
 Top of Casing* 20.23 ft. Water Level Initial NA Static ▼ 4.2 ft. Diameter 8 in.
 Screen: Dia 2 in. Length 10 ft. Type/Slot Size Sch 40 PVC/0.010 in.
 Casing: Dia 2 in. Length 40 ft. Type Sch 40 PVC
 Fill Material See Comments Rig/Core BK81
 Drill Co. Woodward Drilling Method Hollow Stem Auger
 Driller Amador Arroyo Log By Michael Glas Well Inst. Date 6/24/10 Permit # 10W00279
 Checked By Timothy Ripp License No. CHG 786

COMMENTS
Annular Seal
Cement Grout 0-36'
Plug
Bentonite Chips 36-38'
Filter Pack
#2/16 Sand 38-50'
Screened Interval
Machine Slotted Sch 40 PVC
40-50'

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0		8" Vault				See log 28OW-12 for lithologic information.
0-40'		Sch 40 PVC 0-40'				
0-36'		Cement grout 0-36'				
36-38'		Bentonite Chips 36-38'				
38-50'		#2/16 Sand 38-50'				
40-50'		0.010" Sch 40 PVC 40-50'				
50		Threaded cap with gasket				
55						

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

*CCS Zone 3, NAD83, NAVD88

File Original with DWR

State of California

Well Completion Report

Refer to Instruction Pamphlet

No. ~~XXXXXX~~ - 2011043

DWR Use Only - Do Not Fill In

State Well Number/Site Number	
Latitude	Longitude
APN/TRS/Other	

Page 1 of 2

Owner's Well Number 28OW-08

Date Work Began 06/23/2010

Date Work Ended 6/23/2010

Local Permit Agency Santa Clara Valley Water District

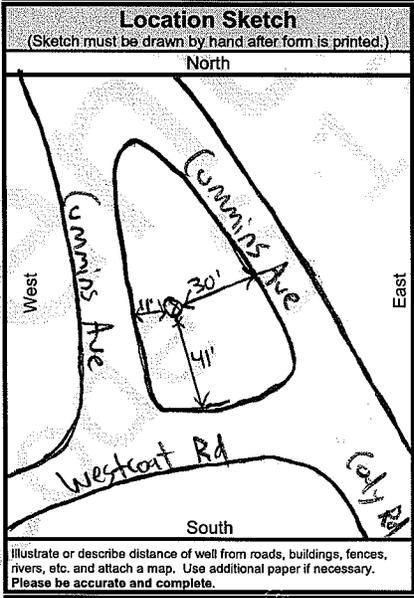
Permit Number 10W00278

Permit Date 6/3/10

Geologic Log		
Orientation <input checked="" type="radio"/> Vertical <input type="radio"/> Horizontal <input type="radio"/> Angle Specify _____		
Drilling Method Hollow Stem Auger		Drilling Fluid _____
Depth from Surface	Description	
Feet to Feet	Describe material, grain size, color, etc	
0	0,5	Coarse landscaping gravel
0	1	Well graded sand with gravel - brown
1	5	Clay - dark olive gray
5	5,5	Silty sand with gravel - olive gray
5.5	6	Clay with sand and gravel - olive brown
6	8,5	Silt - very dark greenish gray
8.5	9	Clay - olive
9	10	No recovery
10	12	Silt - very dark grayish brown
12	13	Silt - greenish black
13	13,5	Silty sand - greenish black
13.5	14,5	Clay - very dark greenish gray
14.5	15	Sandy silt - very dark greenish gray
15	15,5	Silty sand - very dark greenish gray
15.5	17	Poorly graded sand - dark olive brown
17	17,5	Silty sand - very dark grayish brown
17.5	20	No recovery
20	20,5	Clayey sand with gravel - olive
20.5	25	No recovery
25	26,5	Silty sand with gravel - dark olive brown
26.5	28	Well graded sand - olive brown
28	30	No recovery
30	32,5	Poorly graded sand - very dark brown
32.5	35	No recovery
35	36	Poorly graded sand - dark olive brown
36	37	Clay - olive brown
37	40	No recovery
40	42	Poorly graded sand - dark olive brown
42	45	No recovery
45	45,5	Poorly graded sand - olive brown
Total Depth of Boring		65 Feet
Total Depth of Completed Well		65 Feet

Well Owner		
Name	<u>U.S. Department of the Navy</u>	
Mailing Address	<u>1455 Frazee Road, Suite 900</u>	
City	<u>San Diego</u>	State <u>CA</u> Zip <u>92108</u>

Well Location		
Address	<u>Site 28, Former Naval Air Station Moffett Field</u>	
City	<u>Moffett Field</u>	County <u>Santa Clara</u>
Latitude	_____ N	Longitude _____ W
Datum	_____ Decimal Lat. _____	Decimal Long. _____
APN Book	_____ Page _____	Parcel _____
Township	_____ Range _____	Section _____



Activity
<input checked="" type="radio"/> New Well
<input type="radio"/> Modification/Repair
<input type="radio"/> Deepen
<input type="radio"/> Other _____
<input type="radio"/> Destroy
Describe procedures and materials under "GEOLOGIC LOG"

Planned Uses
<input type="radio"/> Water Supply
<input type="checkbox"/> Domestic <input type="checkbox"/> Public
<input type="checkbox"/> Irrigation <input type="checkbox"/> Industrial
<input type="radio"/> Cathodic Protection
<input type="radio"/> Dewatering
<input type="radio"/> Heat Exchange
<input type="radio"/> Injection
<input checked="" type="radio"/> Monitoring
<input type="radio"/> Remediation
<input type="radio"/> Sparging
<input type="radio"/> Test Well
<input type="radio"/> Vapor Extraction
<input type="radio"/> Other _____

Water Level and Yield of Completed Well		
Depth to first water	_____ (Feet below surface)	
Depth to Static	_____	
Water Level	<u>3.63</u> (Feet)	Date Measured <u>07/01/2010</u>
Estimated Yield *	_____ (GPM)	Test Type _____
Test Length	_____ (Hours)	Total Drawdown _____ (Feet)
*May not be representative of a well's long term yield.		

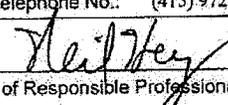
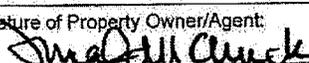
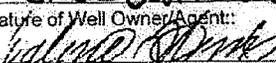
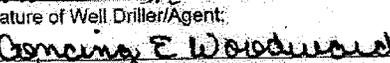
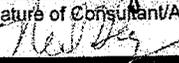
Casings							
Depth from Surface	Borehole Diameter	Type	Material	Wall Thickness	Outside Diameter	Screen Type	Slot Size if Any
Feet to Feet	(Inches)			(Inches)	(Inches)		(Inches)
0	55	8	Blank	PVC Sch. 40	0.154	2.375	
55	65	8	Screen	PVC Sch. 40	0.154	2.375	0.010

Annular Material			
Depth from Surface	Fill	Description	
Feet to Feet			
0	50,5	Cement	
50	53	Bentonite	Pellets
53	65	Filter Pack	#2/16 sand

Attachments
<input checked="" type="checkbox"/> Geologic Log
<input checked="" type="checkbox"/> Well Construction Diagram
<input type="checkbox"/> Geophysical Log(s)
<input type="checkbox"/> Soil/Water Chemical Analyses
<input type="checkbox"/> Other _____
Attach additional information, if it exists.

Certification Statement			
I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief			
Name <u>Woodward Drilling Co., INC.</u>			
Person, Firm or Corporation			
<u>550 River Road</u>	<u>Rio Vista</u>	<u>CA</u>	<u>94571</u>
Address		City	State Zip
Signed <u>Conroy E Woodward</u>	<u>7-22-10</u>	<u>710079</u>	
C-57 Licensed Water Well Contractor		Date Signed	C-57 License Number

WELL CONSTRUCTION APPLICATION

TO BE COMPLETED BY DISTRICT		
District Permit No.: <u>10W00278</u>	Date Issued: <u>6/3/10</u>	Well Registration No.:
Geologic Setting: <u>1</u>	Expiration Date: <u>12/3/10</u>	Driller's Log No.: <u>E0111093</u>
TO BE COMPLETED BY OWNER AND DRILLER		
Well Owner: US Department of the Navy - BRAC	Property Owner: National Aeronautics & Space Administration	Name of Business at Well Site: National Aeronautics & Space Administration
Well Owner's Mailing Address: 1455 Frazee Road, Suite 900 City, State, Zip San Diego, CA 92108	Property Owner's Mailing Address: NASA Ames Research Center, Building 237, Room 115 City, State, Zip Moffett Field, CA 94035	Address of Well Site: IR Site 28, Former Naval Air Station Moffett Field City, State, Zip Moffett Field, CA 94035
Telephone No. & Contact Name: Valerie Harris (619) 532-0981	Telephone No. & Contact Name: Donald Chuck (650) 604-0237	Telephone No.: None
Owner's/Consultant's Well No.: <u>28OW-08</u>	Assessor's Parcel No. of Well Site: Book <u>116</u> Page <u>18</u> Parcel <u>012</u>	
Consultant (Company): Shaw Environmental, Inc.	Drilling Company: Woodward Drilling	
Address: 4005 Port Chicago Highway City, State, Zip Concord, CA 94520-1120	Address: P.O. Box 336, 550 River Road City, State, Zip Rio Vista, CA 94571	
Telephone No.: (925) 288-9898	Telephone No.: (707) 374-4300	C-57 License No.: 710079
<input type="checkbox"/> Check if address or phone number has changed	<input type="checkbox"/> Check if address or phone number has changed	
THIS SECTION TO BE COMPLETED FOR ALL MONITORING WELLS OR EXTRACTION/RECOVERY WELLS		
Case Name/No.:	Caseworker Name: Alana Lee	
Oversight Agency: USEPA Region IX	Caseworker Telephone No.: (415) 972-3141	
Type of Monitoring Device: <input checked="" type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	<div style="text-align: right;">  Signature of Responsible Professional Neil Hey Print Name _____ OR PG 8006 Civil Engineer Registration No. _____ Geologist Registration No. _____ </div> <div style="text-align: right; font-size: small;">(No substitution of signature will be accepted)</div>	
Type of Extraction Device: <input type="checkbox"/> Groundwater <input type="checkbox"/> Vadose		
Monitoring Well Use: <input type="checkbox"/> Depth <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Chloride		
Nested/Multi-Level Well: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
NOTE: If Nested/Multi-Level Well is proposed, a separate permit is needed for each casing.		
Estimated Depth of Completed Well: <input type="checkbox"/> Less than 50 feet <input checked="" type="checkbox"/> 50 to 300 feet <input type="checkbox"/> Over 300 feet <input type="checkbox"/> Other: _____	Purpose of Well: <input type="checkbox"/> Domestic <input type="checkbox"/> Municipal/Industrial <input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Monitoring <input type="checkbox"/> Cathodic Protection <input type="checkbox"/> Other: _____	
NOTE: Monitoring wells are those constructed for the purpose of obtaining repetitive water level measurements and/or repetitive air samples for analysis.		
Well is to be constructed: <input type="checkbox"/> In a public sidewalk <input type="checkbox"/> In a public road <input checked="" type="checkbox"/> On public property <input type="checkbox"/> On private property <input type="checkbox"/> On District property/easement* <input type="checkbox"/> Within 50 feet of the top of a creek bank or District facility		
Within 50 feet of sanitary sewer: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Within 50 feet of any existing well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Within 100 feet of a pit privy, septic tank, or leachfield: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Within 150 feet of a cesspool or seepage pit: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
*See General Condition F, page 2.	Other wells exist on this property? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, status: <input checked="" type="checkbox"/> Active <input type="checkbox"/> Inactive <input type="checkbox"/> Abandoned	
SIGNATURES		
I understand and agree that all work associated with this permit is required to be done in accordance with Santa Clara Valley Water District (District) Well Ordinance 90-1, the District Well Standards, and the conditions of this permit (see page 2). I certify that the information given in this permit is correct to the best of my knowledge and that the signature below, whether original, electronic, or photocopied, is authorized and valid, and is affixed with the intent to be enforceable. I also certify that a right of entry/encroachment agreement has been formalized between the well owner and property owner, if parties differ. I also understand that it is my responsibility, as the well owner, to notify the District of any changes in the purpose of this well, from which, is indicated on this application.		
Signature of Property Owner/Agent: 	Date: <u>5/21/2010</u>	Print Name of Property Owner/Agent: Donald M. Chuck
Signature of Well Owner/Agent: 	Date: <u>5/21/2010</u>	Print Name of Well Owner/Agent: Valerie Harris
Signature of Well Driller/Agent: 	Date: <u>5/24/2010</u>	Print Name of Driller/Agent: Wayne Woodward
Signature of Consultant/Agent: 	Date: <u>5/25/2010</u>	Print Name of Consultant/Agent: Neil Hey
IMPORTANT: A minimum 24-hour notice must be given to Santa Clara Valley Water District Well Inspection Department prior to installing the annular seal. Call (408) 265-2607, ext. 2660. For weekends, holidays, or after-hours, call (408) 265-2607, ext. 2120. Please allow 10 working days to process permit application.		

MAY 26 2010



WELL CONSTRUCTION APPLICATION

DISTRICT WELL PERMIT NO.: _____

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SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH APPROVAL (Water Supply Well Only)

NOTE: Department of Environmental Health approval must be granted before this application will be accepted by Santa Clara Valley Water District.

Approved by:	, R.E.H.S	<input type="checkbox"/> Approved as submitted
		<input type="checkbox"/> Approved as corrected
		Date: _____

SITE PLAN

- A 8½" x 11" paper site plan must be attached to this application, including:
1. Location of site features, including major buildings, landscaped areas, tank fields, existing wells, etc.
 2. North arrow and scale
 3. Location of proposed well with dimensions in feet from well to nearest cross streets.

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- B. Permittee agrees to construct, operate, and maintain the well according to provisions of the latest District Ordinance and the latest published revisions of District Well Standards to the end that this well will not cause pollution or contamination of groundwater or otherwise jeopardize the health, safety, or welfare of the people of the District.
- C. This permit is valid only for the purpose specified herein. Well construction methods authorized under this permit may not be changed except by written approval of an authorized District representative, and only if the District believes that such a change will result in equal or superior compliance with the District and State Well Standards (e.g., if the District representative finds that site conditions warrant such a change).
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- H. If the well constructed under this permit cannot be or is not being used for its intended purpose, permittee is hereby required to destroy the well according to the District Well Standards and under permit from the District. Any test holes drilled under this permit must be destroyed within 24 hours of completion of testing activities. Destruction activities must be completed according to District standards. District must be notified a minimum of 24 hours prior to destruction.
- I. Within 30 days of the completion of the well construction activities, the driller or consultant identified on this permit shall fully complete State of California DWR Form 188 and mail the original to the District's Wells and Water Production Unit.
- J. The permittee(s) shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend, and hold the District, its officers, agents, and employees, free and harmless from any and all expense, cost, and liability in connection with or resulting from the granting or exercise of this permit including, but not limited to, property damage, personal injury, and wrongful death.
- K. Permittees are required to be in full compliance with Cal/OSHA California Labor Code Section 6300.
- L. A current C-57 Water Well Drilling Contractor's License is required for the construction of all wells.
- M. Permittee, permittee's contractors, consultants, or agents shall be responsible to assure that all materials or waters generated during drilling, well construction, well development, pump testing, or other activities associated with this permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on- or off-site storm sewers, dry wells, or waterways. Such materials/waters must not be allowed to move off the property where the work is being completed.
- N. The driller and consultants (if applicable) shall have an active copy of their Worker's Compensation Insurance on file with District.
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- P. This permit must be kept on site during all activities associated with it and shall immediately be presented to an authorized District representative upon request.

SPECIAL CONDITIONS

Community Projects Review Unit Approval (if needed):	CPRU Permit No.:
Approved by:	Date:

Please allow 10 working days to process this application.



Drilling Log

Monitoring Well **28OW-08**

Page: 1 of 1

Project Site IR28 Treatability Study Owner U.S. Navy
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 Surface Elev.* 20.5 ft. Total Hole Depth 65 ft. bgs North* 1975928.6 East* 6110434.4
 Top of Casing* 19.91 ft. Water Level Initial NA Static ▼ 3.7 ft. Diameter 8 in.
 Screen: Dia 2 in. Length 10 ft. Type/Slot Size Sch 40 PVC/0.010 in.
 Casing: Dia 2 in. Length 55 ft. Type Sch 40 PVC
 Fill Material See Comments Rig/Core BK81
 Drill Co. Woodward Drilling Method Hollow Stem Auger
 Driller Amador Arroyo Log By Michael Glas Well Inst. Date 6/23/10 Permit # 10W00278
 Checked By Timothy Ripp License No. CHG 786

COMMENTS
Annular Seal
Cement Grout 0-50.5'
Plug
Bentonite Chips 50.5-53'
Filter Pack
#2/16 Sand 53-65'
Screened Interval
Machine Slotted Sch 40 PVC
55-65'

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0	8" Vault					See log 28OW-04 for lithologic information.
	Sch 40 PVC 0-55'					
	Cement grout 0-50.5'					
50	Bentonite Chips 50.5-53'					
	#2/16 Sand 53-65'					
60	0.010" Sch 40 PVC 55-65'					
	Threaded cap with gasket					
70						

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

*CCS Zone 3, NAD83, NAVD88

File Original with DWR

State of California

Well Completion Report

Refer to Instruction Pamphlet

No. ~~XXXXXX~~ 20111092

DWR Use Only - Do Not Fill In

State Well Number/Site Number	
Latitude	Longitude
APN/TRS/Other	

Page 1 of 1

Owner's Well Number 28OW-09

Date Work Began 06/16/2010

Date Work Ended 6/16/2010

Local Permit Agency Santa Clara Valley Water District

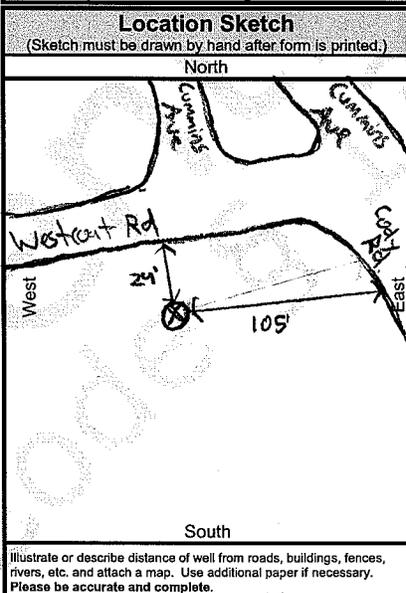
Permit Number 10W00277

Permit Date 6/3/10

Geologic Log		
Orientation <input checked="" type="radio"/> Vertical <input type="radio"/> Horizontal <input type="radio"/> Angle Specify _____		
Drilling Method <u>Hollow Stem Auger</u>		Drilling Fluid _____
Depth from Surface	Description	
Feet to Feet	Describe material, grain size, color, etc	
0	0.25	Asphalt
0.25	1	Well graded sand with gravel - dark yellowish brown
1	5	Clay - dark grayish brown
5	5.5	Silt - dark greenish gray
5.5	6	Clay - olive gray
6	10	No recovery
10	10.5	Clay - greenish black
10.5	11	Silty sand - dark olive brown
11	12.5	Silt - dark olive gray
12.5	15	No recovery
15	15.5	Silty sand - greenish black
15.5	16	Clay with sand - greenish black
16	17.25	Silty sand - greenish black
Total Depth of Boring <u>17.25</u> Feet		
Total Depth of Completed Well <u>17</u> Feet		

Well Owner	
Name	<u>U.S. Department of the Navy</u>
Mailing Address	<u>1455 Frazee Road, Suite 900</u>
City	<u>San Diego</u> State <u>CA</u> Zip <u>92108</u>

Well Location	
Address	<u>Site 28, Former Naval Air Station Moffett Field</u>
City	<u>Moffett Field</u> County <u>Santa Clara</u>
Latitude	____ N Longitude ____ W
Datum	____ Decimal Lat. ____ Decimal Long. ____
APN Book	____ Page ____ Parcel ____
Township	____ Range ____ Section ____



Activity
<input checked="" type="radio"/> New Well
<input type="radio"/> Modification/Repair
<input type="radio"/> Deepen
<input type="radio"/> Other _____
<input type="radio"/> Destroy
<small>Describe procedures and materials under "GEOLOGIC LOG"</small>

Planned Uses
<input type="radio"/> Water Supply
<input type="checkbox"/> Domestic <input type="checkbox"/> Public
<input type="checkbox"/> Irrigation <input type="checkbox"/> Industrial
<input type="radio"/> Cathodic Protection
<input type="radio"/> Dewatering
<input type="radio"/> Heat Exchange
<input type="radio"/> Injection
<input checked="" type="radio"/> Monitoring
<input type="radio"/> Remediation
<input type="radio"/> Sparging
<input type="radio"/> Test Well
<input type="radio"/> Vapor Extraction
<input type="radio"/> Other _____

Water Level and Yield of Completed Well	
Depth to first water	____ (Feet below surface)
Depth to Static	____
Water Level	<u>5.41</u> (Feet) Date Measured <u>06/29/2010</u>
Estimated Yield *	____ (GPM) Test Type _____
Test Length	____ (Hours) Total Drawdown ____ (Feet)
*May not be representative of a well's long term yield.	

Casings							
Depth from Surface	Borehole Diameter	Type	Material	Wall Thickness	Outside Diameter	Screen Type	Slot Size if Any
Feet to Feet	(Inches)			(Inches)	(Inches)		(Inches)
0	12	8	Blank	PVC Sch. 40	0.154	2.375	
12	17	8	Screen	PVC Sch. 40	0.154	2.375	0.010

Annular Material			
Depth from Surface	Fill	Description	
Feet to Feet			
0	8	Cement	
8	10	Bentonite	Pellets
10	17.25	Filter Pack	#2/16 sand

Attachments
<input checked="" type="checkbox"/> Geologic Log
<input checked="" type="checkbox"/> Well Construction Diagram
<input type="checkbox"/> Geophysical Log(s)
<input type="checkbox"/> Soil/Water Chemical Analyses
<input type="checkbox"/> Other _____
<small>Attach additional information, if it exists.</small>

Certification Statement	
I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief	
Name	<u>Woodward Drilling Co., INC.</u>
Person, Firm or Corporation	
Address	<u>550 River Road</u> City <u>Rio Vista</u> State <u>CA</u> Zip <u>94571</u>
Signed	<u>Conroy E Woodward</u> Date Signed <u>7/2-10</u> C-57 License Number <u>710079</u>
C-57 Licensed Water Well Contractor	

WELL CONSTRUCTION APPLICATION

TO BE COMPLETED BY DISTRICT

District Permit No.: <u>10W00277</u>	Date Issued: <u>6/3/10</u>	Well Registration No.:
Geologic Setting: <u>1</u>	Expiration Date: <u>12/3/10</u>	Driller's Log No.: <u>E0111092</u>

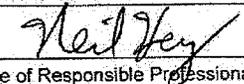
TO BE COMPLETED BY OWNER AND DRILLER

Well Owner: US Department of the Navy - BRAC	Property Owner: National Aeronautics & Space Administration	Name of Business at Well Site: National Aeronautics & Space Administration
Well Owner's Mailing Address: 1455 Frazee Road, Suite 900 City, State, Zip San Diego, CA 92108	Property Owner's Mailing Address: NASA Ames Research Center, Building 237, Room 115 City, State, Zip Moffett Field, CA 94035	Address of Well Site: IR Site 28, Former Naval Air Station Moffett Field City, State, Zip Moffett Field, CA 94035
Telephone No. & Contact Name: Valerie Harris (619) 532-0981	Telephone No. & Contact Name: Donald Chuck (650) 604-0237	Telephone No.: None

Owner's/Consultant's Well No.: 280W-09 Assessor's Parcel No. of Well Site: Book 116 Page 18 Parcel 012

Consultant (Company): Shaw Environmental, Inc.	Drilling Company: Woodward Drilling
Address: 4005 Port Chicago Highway City, State, Zip Concord, CA 94520-1120	Address: P.O. Box 336, 550 River Road City, State, Zip Rio Vista, CA 94571
Telephone No.: (925) 288-9898	Telephone No.: (707) 374-4300
<input type="checkbox"/> Check if address or phone number has changed	C-57 License No.: 710079
<input type="checkbox"/> Check if address or phone number has changed	

THIS SECTION TO BE COMPLETED FOR ALL MONITORING WELLS OR EXTRACTION/RECOVERY WELLS

Case Name/No.:	Caseworker Name: <u>Alana Lee</u>
Oversight Agency: <u>USEPA Region IX</u>	Caseworker Telephone No.: <u>(415) 972-3141</u>
Type of Monitoring Device: <input checked="" type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	(No substitution of signature will be accepted)  Signature of Responsible Professional Neil Hey Print Name Civil Engineer Registration No. _____ OR PG 8006 Geologist Registration No. _____
Type of Extraction Device: <input type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	
Monitoring Well Use: <input type="checkbox"/> Depth <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Chloride	
Nested/Multi-Level Well: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
NOTE: If Nested/Multi-Level Well is proposed, a separate permit is needed for each casing.	

Estimated Depth of Completed Well: Less than 50 feet 50 to 300 feet Over 300 feet Other: _____

Purpose of Well: Domestic Municipal/Industrial Agricultural Monitoring Cathodic Protection Other: _____

NOTE: Monitoring wells are those constructed for the purpose of obtaining repetitive water level measurements and/or repetitive air samples for analysis.

Well is to be constructed: In a public sidewalk In a public road On public property On private property On District property/easement*

Within 50 feet of the top of a creek bank or District facility

Within 50 feet of sanitary sewer: Yes No

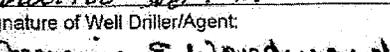
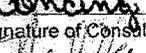
Within 100 feet of a pit privy, septic tank, or leachfield: Yes No

Within 150 feet of a cesspool or seepage pit: Yes No

*See General Condition F, page 2. Other wells exist on this property? Yes No If yes, status: Active Inactive Abandoned

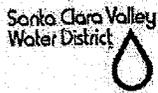
SIGNATURES

I understand and agree that all work associated with this permit is required to be done in accordance with Santa Clara Valley Water District (District) Well Ordinance 90-1, the District Well Standards, and the conditions of this permit (see page 2). I certify that the information given in this permit is correct to the best of my knowledge and that the signature below, whether original, electronic, or photocopied, is authorized and valid, and is affixed with the intent to be enforceable. I also certify that a right of entry/encroachment agreement has been formalized between the well owner and property owner, if parties differ. I also understand that it is my responsibility, as the well owner, to notify the District of any changes in the purpose of this well, from which, is indicated on this application.

Signature of Property Owner/Agent: 	Date: <u>5/21/2010</u>	Print Name of Property Owner/Agent: Donald M. Chuck
Signature of Well Owner/Agent: 	Date: <u>5/21/2010</u>	Print Name of Well Owner/Agent: Valerie Harris
Signature of Well Driller/Agent: 	Date: <u>5/24/2010</u>	Print Name of Driller/Agent: Wayne Woodward
Signature of Consultant/Agent: 	Date: <u>5/25/2010</u>	Print Name of Consultant/Agent: Neil Hey

IMPORTANT: A minimum 24-hour notice must be given to Santa Clara Valley Water District Well Inspection Department prior to installing the annular seal. Call (408) 265-2607, ext. 2660. For weekends, holidays, or after-hours, call (408) 265-2607, ext. 2120. Please allow 10 working days to process permit application.

MAY 23 2010



5750 Almaden Expressway
San Jose, CA 95118-3686
(408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 158 (05-07-08)
Page 2 of 2

DISTRICT WELL PERMIT NO.: _____

Based on information on this application and attachment(s) hereto (if any) and subject to approval noted below, permission is hereby granted to construct (drill) the described well. Permission to start work may be withheld until a field check verifies all statements made on application by permittee and is also subject to the "General" and "Special" Conditions stated below.

SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH APPROVAL (Water Supply Well Only)

NOTE: Department of Environmental Health approval must be granted before this application will be accepted by Santa Clara Valley Water District.

Approved by:	R.E.H.S	<input type="checkbox"/> Approved as submitted
		<input type="checkbox"/> Approved as corrected
		Date:

SITE PLAN

A 8½" x 11" paper site plan must be attached to this application, including:

1. Location of site features, including major buildings, landscaped areas, tank fields, existing wells, etc.
2. North arrow and scale
3. Location of proposed well with dimensions in feet from well to nearest cross streets.

GENERAL CONDITIONS

- A. District (telephone 408-265-2607, ext. 2660) must be notified a minimum of one working day before construction of the annular seal. An authorized District representative must be on site to witness the construction of the annular seal. This requirement may be waived by an authorized District representative. If the District waives the inspection requirement, the District may request the permittee(s) to furnish certification, under penalty of perjury, that the well was constructed in accordance with the District Well Standards and with the permit conditions.
- B. Permittee agrees to construct, operate, and maintain the well according to provisions of the latest District Ordinance and the latest published revisions of District Well Standards to the end that this well will not cause pollution or contamination of groundwater or otherwise jeopardize the health, safety, or welfare of the people of the District.
- C. This permit is valid only for the purpose specified herein. Well construction methods authorized under this permit may not be changed except by written approval of an authorized District representative, and only if the District believes that such a change will result in equal or superior compliance with the District and State Well Standards (e.g., if the District representative finds that site conditions warrant such a change).
- D. This permit is only valid for the Assessor's Parcel No. indicated on it.
- E. This permit may be voided if it contains incorrect information. If the permit is voided after work has begun, the well or boring that was constructed under this permit must be destroyed in accordance with District and State Well Standards.
- F. If any work associated with this permit will take place on District property/easement, an encroachment or construction permit must be granted by the District's Community Projects Review Unit (telephone 408-265-2607, ext. 2589).
- G. Before the well constructed under this permit can be used as a drinking water source, its use must be approved by the regulatory agency with authority over such use (typically the Santa Clara County Department of Environmental Health or the State of California Department of Public Health). A completed Well Inventory Form must also be approved.
- H. If the well constructed under this permit cannot be or is not being used for its intended purpose, permittee is hereby required to destroy the well according to the District Well Standards and under permit from the District. Any test holes drilled under this permit must be destroyed within 24 hours of completion of testing activities. Destruction activities must be completed according to District standards. District must be notified a minimum of 24 hours prior to destruction.
- I. Within 30 days of the completion of the well construction activities, the driller or consultant identified on this permit shall fully complete State of California DWR Form 188 and mail the original to the District's Wells and Water Production Unit.
- J. The permittee(s) shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend, and hold the District, its officers, agents, and employees, free and harmless from any and all expense, cost, and liability in connection with or resulting from the granting or exercise of this permit including, but not limited to, property damage, personal injury, and wrongful death.
- K. Permittees are required to be in full compliance with Cal/OSHA California Labor Code Section 6300.
- L. A current C-57 Water Well Drilling Contractor's License is required for the construction of all wells.
- M. Permittee, permittee's contractors, consultants, or agents shall be responsible to assure that all materials or waters generated during drilling, well construction, well development, pump testing, or other activities associated with this permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on- or off-site storm sewers, dry wells, or waterways. Such materials/waters must not be allowed to move off the property where the work is being completed.
- N. The driller and consultants (if applicable) shall have an active copy of their Worker's Compensation Insurance on file with District.
- O. This permit shall expire if not exercised within 180 calendar days of its approval, unless an extension of the permit expiration date is granted by an authorized District representative.
- P. This permit must be kept on site during all activities associated with it and shall immediately be presented to an authorized District representative upon request.

SPECIAL CONDITIONS

Community Projects Review Unit Approval (if needed):	CPRU Permit No.:
Approved by:	Date:

Please allow 10 working days to process this application.



Drilling Log

Monitoring Well **28OW-09**

Page: 1 of 1

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816
 Surface Elev.* 20.9 ft. Total Hole Depth 17 ft. bgs North* 1975824.1 East* 6110435.5
 Top of Casing* 20.63 ft. Water Level Initial NA Static ▼ 4.3 ft. Diameter 8 in.
 Screen: Dia 2 in. Length 5 ft. Type/Slot Size Sch 40 PVC/0.010 in.
 Casing: Dia 2 in. Length 12.25 ft. Type Sch 40 PVC
 Fill Material See Comments Rig/Core BK81
 Drill Co. Woodward Drilling Method Hollow Stem Auger
 Driller Amador Arroyo Log By Michael Glas Well Inst. Date 6/16/10 Permit # 10W00277
 Checked By Timothy Ripp License No. CHG 786

COMMENTS
Annular Seal
Cement Grout 0-8'
Plug
Bentonite Chips 8-10'
Filter Pack
#2/16 Sand 10-17.25'
Screened Interval
Machine Slotted Sch 40 PVC
12-17'

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0		8" Vault				See log 280W-11 for lithologic information.
2		Sch 40 PVC 0-12'				
4		Cement grout 0-8'				
8		Bentonite Chips 8-10'				
10		#2/16 Sand 10-17'				
12						
14		0.010" Sch 40 PVC 12-17'				
16						
18		Threaded cap with gasket				
20						

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

*CCS Zone 3, NAD83, NAVD88

File Original with DWR

State of California

Well Completion Report

Refer to Instruction Pamphlet

No. ~~XXXXXX~~ 0111040

Page 1 of 1

Owner's Well Number 28OW-10

Date Work Began 06/18/2010 Date Work Ended 6/18/2010

Local Permit Agency Santa Clara Valley Water District

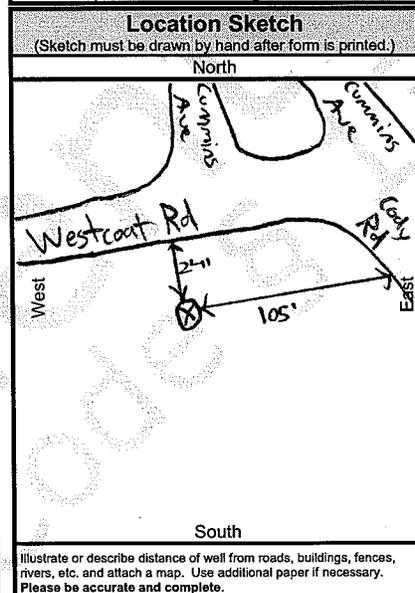
Permit Number 10W00276 Permit Date 6/3/10

DWR Use Only - Do Not Fill In

State Well Number/Site Number									
Latitude					Longitude				
APN/TRS/Other									

Geologic Log		
Orientation <input checked="" type="radio"/> Vertical <input type="radio"/> Horizontal <input type="radio"/> Angle Specify _____		
Drilling Method <u>Hollow Stem Auger</u>		Drilling Fluid _____
Depth from Surface		Description
Feet	to Feet	Describe material, grain size, color, etc
0	0.25	Asphalt
0.25	1	Well graded sand with gravel - dark yellowish brown
1	5	Clay - dark grayish brown
5	5.5	Silt - dark greenish gray
5.5	6	Clay - olive gray
6	10	No recovery
10	10.5	Clay - greenish black
10.5	11	Silty sand - dark olive brown
11	12.5	Silt - dark olive gray
12.5	15	No recovery
15	15.5	Silty sand - greenish black
15.5	16	Clay with sand - greenish black
16	18	Silty sand - greenish black
18	20	No recovery
20	21	Clay - olive gray
21	22	Clay - very dark greenish gray
22	23.5	Silty sand - very dark greenish gray
23.5	24.5	Sandy silt - very dark greenish gray
24.5	25	Silty sand - very dark greenish gray
25	26	Well graded sand - dark olive brown
26	27	Silt - olive
27	29	Sandy clay - olive brown
Total Depth of Boring <u>29</u> Feet		
Total Depth of Completed Well <u>29</u> Feet		

Well Owner	
Name	<u>U.S. Department of the Navy</u>
Mailing Address	<u>1455 Frazee Road, Suite 900</u>
City	<u>San Diego</u> State <u>CA</u> Zip <u>92108</u>
Well Location	
Address	<u>Site 28, Former Naval Air Station Moffett Field</u>
City	<u>Moffett Field</u> County <u>Santa Clara</u>
Latitude	____° ____' ____" N Longitude ____° ____' ____" W
Datum	____ Decimal Lat. ____ Decimal Long. ____
APN Book	____ Page ____ Parcel ____
Township	____ Range ____ Section ____



Activity
<input checked="" type="radio"/> New Well
<input type="radio"/> Modification/Repair
<input type="radio"/> Deepen
<input type="radio"/> Other _____
<input type="radio"/> Destroy
<small>Describe procedures and materials under "GEOLOGIC LOG"</small>
Planned Uses
<input type="radio"/> Water Supply
<input type="checkbox"/> Domestic <input type="checkbox"/> Public
<input type="checkbox"/> Irrigation <input type="checkbox"/> Industrial
<input type="radio"/> Cathodic Protection
<input type="radio"/> Dewatering
<input type="radio"/> Heat Exchange
<input type="radio"/> Injection
<input checked="" type="radio"/> Monitoring
<input type="radio"/> Remediation
<input type="radio"/> Sparging
<input type="radio"/> Test Well
<input type="radio"/> Vapor Extraction
<input type="radio"/> Other _____

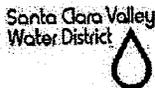
Water Level and Yield of Completed Well	
Depth to first water _____	(Feet below surface)
Depth to Static _____	
Water Level <u>4.41</u>	(Feet) Date Measured <u>06/29/2010</u>
Estimated Yield * _____	(GPM) Test Type _____
Test Length _____	(Hours) Total Drawdown _____ (Feet)
*May not be representative of a well's long term yield.	

Casings							
Depth from Surface	Borehole Diameter	Type	Material	Wall Thickness	Outside Diameter	Screen Type	Slot Size if Any
Feet to Feet	(Inches)			(Inches)	(Inches)		(Inches)
0	24	8	Blank	PVC Sch. 40	0.154	2.375	
24	29	8	Screen	PVC Sch. 40	0.154	2.375	0.010

Annular Material		
Depth from Surface	Fill	Description
Feet to Feet		
0	19.5	Cement
19.5	22	Bentonite
22	29	Filter Pack

Attachments
<input checked="" type="checkbox"/> Geologic Log
<input checked="" type="checkbox"/> Well Construction Diagram
<input type="checkbox"/> Geophysical Log(s)
<input type="checkbox"/> Soil/Water Chemical Analyses
<input type="checkbox"/> Other _____
<small>Attach additional information, if it exists.</small>

Certification Statement			
I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief			
Name <u>Woodward Drilling Co., INC.</u>			
<small>Person, Firm or Corporation</small>			
<u>550 River Road</u>	<u>Rio Vista</u>	<u>CA</u>	<u>94571</u>
<small>Address</small>		<small>City</small>	<small>State</small>
Signed <u>Concino E Woodward</u>		<u>7-22-10</u>	<u>210079</u>
<small>C-57 Licensed Water Well Contractor</small>		<small>Date Signed</small>	<small>C-57 License Number</small>



5750 Almaden Expressway
San Jose, CA 95118-3686
(408) 265-2600

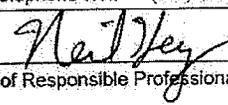
WELL CONSTRUCTION APPLICATION

FC 158 (05-07-08)
Page 1 of 2

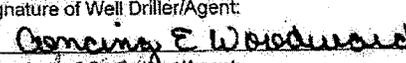
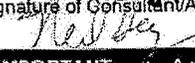
TO BE COMPLETED BY DISTRICT		
District Permit No.: <u>10W00276</u>	Date Issued: <u>6/3/10</u>	Well Registration No.:
Geologic Setting: <u>1</u>	Expiration Date: <u>12/3/10</u>	Driller's Log No.: <u>E0111090</u>

TO BE COMPLETED BY OWNER AND DRILLER		
Well Owner: US Department of the Navy - BRAC	Property Owner: National Aeronautics & Space Administration	Name of Business at Well Site: National Aeronautics & Space Administration
Well Owner's Mailing Address: 1455 Frazee Road, Suite 900 City, State, Zip San Diego, CA 92108	Property Owner's Mailing Address: NASA Ames Research Center, Building 237, Room 115 City, State, Zip Moffett Field, CA 94035	Address of Well Site: IR Site 28, Former Naval Air Station Moffett Field City, State, Zip Moffett Field, CA 94035
Telephone No. & Contact Name: Valerie Harris (619) 532-0981	Telephone No. & Contact Name: Donald Chuck (650) 604-0237	Telephone No.: None

Owner's/Consultant's Well No.: <u>28OW-10</u>	Assessor's Parcel No. of Well Site: <u>Book 116 Page 18 Parcel 012</u>
Consultant (Company): Shaw Environmental, Inc. Address: 4005 Port Chicago Highway City, State, Zip Concord, CA 94520-1120	Drilling Company: Woodward Drilling Address: P.O. Box 336, 550 River Road City, State, Zip Rio Vista, CA 94571
Telephone No.: (925) 288-9898 <input type="checkbox"/> Check if address or phone number has changed	Telephone No.: (707) 374-4300 <input type="checkbox"/> Check if address or phone number has changed
	C-57 License No.: 710079

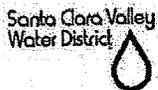
THIS SECTION TO BE COMPLETED FOR ALL MONITORING WELLS OR EXTRACTION/RECOVERY WELLS	
Case Name/No.:	Caseworker Name: <u>Alana Lee</u>
Oversight Agency: <u>USEPA Region IX</u>	Caseworker Telephone No.: <u>(415) 972-3141</u>
Type of Monitoring Device: <input checked="" type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	Signature of Responsible Professional  Neil Hey Print Name Civil Engineer Registration No. _____ OR PG 8006 Geologist Registration No. _____
Type of Extraction Device: <input type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	
Monitoring Well Use: <input type="checkbox"/> Depth <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Chloride	
Nested/Multi-Level Well: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
NOTE: If Nested/Multi-Level Well is proposed, a separate permit is needed for each casing.	

Estimated Depth of Completed Well: <input checked="" type="checkbox"/> Less than 50 feet <input type="checkbox"/> 50 to 300 feet <input type="checkbox"/> Over 300 feet <input type="checkbox"/> Other: _____
Purpose of Well: <input type="checkbox"/> Domestic <input type="checkbox"/> Municipal/Industrial <input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Monitoring <input type="checkbox"/> Cathodic Protection <input type="checkbox"/> Other: _____
NOTE: Monitoring wells are those constructed for the purpose of obtaining repetitive water level measurements and/or repetitive air samples for analysis.
Well is to be constructed: <input type="checkbox"/> In a public sidewalk <input type="checkbox"/> In a public road <input checked="" type="checkbox"/> On public property <input type="checkbox"/> On private property <input type="checkbox"/> On District property/easement* <input type="checkbox"/> Within 50 feet of the top of a creek bank or District facility
Within 50 feet of sanitary sewer: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Within 100 feet of a pit privy, septic tank, or leachfield: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
*See General Condition F, page 2. Other wells exist on this property? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, status: <input checked="" type="checkbox"/> Active <input type="checkbox"/> Inactive <input type="checkbox"/> Abandoned

SIGNATURES		
I understand and agree that all work associated with this permit is required to be done in accordance with Santa Clara Valley Water District (District) Well Ordinance 90-1, the District Well Standards, and the conditions of this permit (see page 2). I certify that the information given in this permit is correct to the best of my knowledge and that the signature below, whether original, electronic, or photocopied, is authorized and valid, and is affixed with the intent to be enforceable. I also certify that a right of entry/encroachment agreement has been formalized between the well owner and property owner, if parties differ. I also understand that it is my responsibility, as the well owner, to notify the District of any changes in the purpose of this well, from which, is indicated on this application.		
Signature of Property Owner/Agent: 	Date: <u>5/21/2010</u>	Print Name of Property Owner/Agent: Donald M. Chuck
Signature of Well Owner/Agent: 	Date: <u>5/21/2010</u>	Print Name of Well Owner/Agent: Valerie Harris
Signature of Well Driller/Agent: 	Date: <u>5/24/2010</u>	Print Name of Driller/Agent: Wayne Woodward
Signature of Consultant/Agent: 	Date: <u>5/25/2010</u>	Print Name of Consultant/Agent: Neil Hey

IMPORTANT: A minimum 24-hour notice must be given to Santa Clara Valley Water District Well Inspection Department prior to installing the annular seal. Call (408) 265-2607, ext. 2660. For weekends, holidays, or after-hours, call (408) 265-2607, ext. 2120. Please allow 10 working days to process permit application.

MAY 26 2010



5750 Almaden Expressway
San Jose, CA 95118-3686
(408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 158 (05-07-08)
Page 2 of 2

DISTRICT WELL PERMIT NO.: _____

Based on information on this application and attachment(s) hereto (if any) and subject to approval noted below, permission is hereby granted to construct (drill) the described well. Permission to start work may be withheld until a field check verifies all statements made on application by permittee and is also subject to the "General" and "Special" Conditions stated below.

SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH APPROVAL (Water Supply Well Only)

NOTE: Department of Environmental Health approval must be granted before this application will be accepted by Santa Clara Valley Water District.

Approved by:	R.E.H.S	<input type="checkbox"/> Approved as submitted
		<input type="checkbox"/> Approved as corrected
		Date:

SITE PLAN

A 8 1/2" x 11" paper site plan must be attached to this application, including:

1. Location of site features, including major buildings, landscaped areas, tank fields, existing wells, etc.
2. North arrow and scale
3. Location of proposed well with dimensions in feet from well to nearest cross streets.

GENERAL CONDITIONS

- A. District (telephone 408-265-2607, ext. 2660) must be notified a minimum of one working day before construction of the annular seal. An authorized District representative must be on site to witness the construction of the annular seal. This requirement may be waived by an authorized District representative. If the District waives the inspection requirement, the District may request the permittee(s) to furnish certification, under penalty of perjury, that the well was constructed in accordance with the District Well Standards and with the permit conditions.
- B. Permittee agrees to construct, operate, and maintain the well according to provisions of the latest District Ordinance and the latest published revisions of District Well Standards to the end that this well will not cause pollution or contamination of groundwater or otherwise jeopardize the health, safety, or welfare of the people of the District.
- C. This permit is valid only for the purpose specified herein. Well construction methods authorized under this permit may not be changed except by written approval of an authorized District representative, and only if the District believes that such a change will result in equal or superior compliance with the District and State Well Standards (e.g., if the District representative finds that site conditions warrant such a change).
- D. This permit is only valid for the Assessor's Parcel No. indicated on it.
- E. This permit may be voided if it contains incorrect information. If the permit is voided after work has begun, the well or boring that was constructed under this permit must be destroyed in accordance with District and State Well Standards.
- F. If any work associated with this permit will take place on District property/easement, an encroachment or construction permit must be granted by the District's Community Projects Review Unit (telephone 408-265-2607, ext. 2589).
- G. Before the well constructed under this permit can be used as a drinking water source, its use must be approved by the regulatory agency with authority over such use (typically the Santa Clara County Department of Environmental Health or the State of California Department of Public Health). A completed Well Inventory Form must also be approved.
- H. If the well constructed under this permit cannot be or is not being used for its intended purpose, permittee is hereby required to destroy the well according to the District Well Standards and under permit from the District. Any test holes drilled under this permit must be destroyed within 24 hours of completion of testing activities. Destruction activities must be completed according to District standards. District must be notified a minimum of 24 hours prior to destruction.
- I. Within 30 days of the completion of the well construction activities, the driller or consultant identified on this permit shall fully complete State of California DWR Form 188 and mail the original to the District's Wells and Water Production Unit.
- J. The permittee(s) shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend, and hold the District, its officers, agents, and employees, free and harmless from any and all expense, cost, and liability in connection with or resulting from the granting or exercise of this permit including, but not limited to, property damage, personal injury, and wrongful death.
- K. Permittees are required to be in full compliance with Cal/OSHA California Labor Code Section 6300.
- L. A current C-57 Water Well Drilling Contractor's License is required for the construction of all wells.
- M. Permittee, permittee's contractors, consultants, or agents shall be responsible to assure that all materials or waters generated during drilling, well construction, well development, pump testing, or other activities associated with this permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on- or off-site storm sewers, dry wells, or waterways. Such materials/waters must not be allowed to move off the property where the work is being completed.
- N. The driller and consultants (if applicable) shall have an active copy of their Worker's Compensation Insurance on file with District.
- O. This permit shall expire if not exercised within 180 calendar days of its approval, unless an extension of the permit expiration date is granted by an authorized District representative.
- P. This permit must be kept on site during all activities associated with it and shall immediately be presented to an authorized District representative upon request.

SPECIAL CONDITIONS

Community Projects Review Unit Approval (if needed):	CPRU Permit No.:
Approved by:	Date:

Please allow 10 working days to process this application.



Drilling Log

Monitoring Well **28OW-10**

Page: 1 of 1

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816
 Surface Elev.* 20.9 ft. Total Hole Depth 29 ft. bgs North* 1975824.6 East* 6110433.4
 Top of Casing* 20.76 ft. Water Level Initial NA Static ▼ 4.2 ft. Diameter 8 in.
 Screen: Dia 2 in. Length 5 ft. Type/Slot Size Sch 40 PVC/0.010 in.
 Casing: Dia 2 in. Length 24 ft. Type Sch 40 PVC
 Fill Material See Comments Rig/Core BK81
 Drill Co. Woodward Drilling Method Hollow Stem Auger
 Driller Amador Arroyo Log By Michael Glas Well Inst. Date 6/18/10 Permit # 10W00276
 Checked By Timothy Ripp License No. CHG 786

COMMENTS
Annular Seal
Cement Grout 0-19.5'
Plug
Bentonite Chips 19.5-22'
Filter Pack
#2/16 Sand 22-29'
Screened Interval
Machine Slotted Sch 40 PVC
24-29'

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0		8" Vault				See log 28OW-11 for lithologic information.
2		Sch 40 PVC 0-24'				
4		Cement grout 0-19.5'				
6						
8						
10						
12						
14						
16						
18						
20		Bentonite Chips 19.5-22'				
22		#2/16 Sand 22-29'				
24						
26		0.010" Sch 40 PVC 24-29'				
28						
30		Threaded cap with gasket				

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

*CCS Zone 3, NAD83, NAVD88

File Original with DWR

State of California

Well Completion Report

Refer to Instruction Pamphlet

No. ~~XXXXXX~~ e0111089

Page 1 of 2

Owner's Well Number 28OW-11

Date Work Began ~~06/26/2010~~ 6/16/10 Date Work Ended ~~06/26/2010~~ 6/16/10

Local Permit Agency Santa Clara Valley Water District

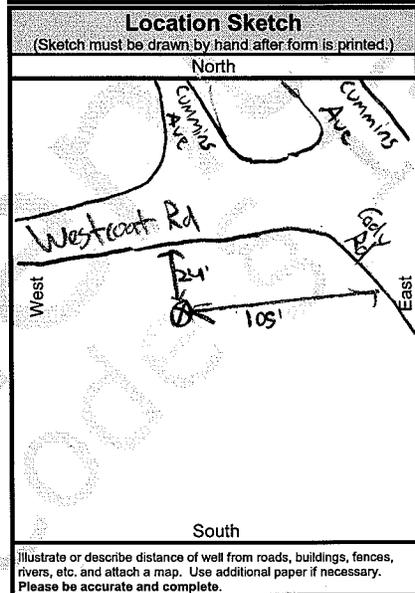
Permit Number 10W00275 Permit Date 6/3/10

DWR Use Only - Do Not Fill In

State Well Number/Site Number									
Latitude					Longitude				
APN/TRS/Other									

Geologic Log		
Orientation	Specify	
<input checked="" type="radio"/> Vertical	<input type="radio"/> Horizontal	<input type="radio"/> Angle
Drilling Method	Hollow Stem Auger	
Depth from Surface	Description	
Feet to Feet	Describe material, grain size, color, etc.	
0	0, 25	Asphalt
0, 25	1	Well graded sand with gravel - dark yellowish brown
1	5	Clay - dark grayish brown
5	5, 5	Silt - dark greenish gray
5.5	6	Clay - olive gray
6	10	No recovery
10	10, 5	Clay - greenish black
10.5	11	Silty sand - dark olive brown
11	12, 5	Silt - dark olive gray
12.5	15	No recovery
15	15, 5	Silty sand - greenish black
15.5	16	Clay with sand - greenish black
16	18	Silty sand - greenish black
18	20	No recovery
20	21	Clay - olive gray
21	22	Clay - very dark greenish gray
22	23, 5	Silty sand - very dark greenish gray
23.5	24, 5	Sandy silt - very dark greenish gray
24.5	25	Silty sand - very dark greenish gray
25	26	Well graded sand - dark olive brown
26	27	Silt - olive
27	29	Sandy clay - olive brown
29	29, 5	Silt - very dark greenish gray
29.5	30	No recovery
30	30, 5	Clay - olive
30.5	31, 5	Silty sand - olive
31.5	34	Clay - olive
34	35	Clay - olive brown
35	36	Silty sand - olive
Total Depth of Boring		50 Feet
Total Depth of Completed Well		50 Feet

Well Owner		
Name	U.S. Department of the Navy	
Mailing Address	1455 Frazee Road, Suite 900	
City	San Diego	State CA Zip 92108
Well Location		
Address	Site 28, Former Naval Air Station Moffett Field	
City	Moffett Field	County Santa Clara
Latitude	Dec. Min. Sec. N	Longitude Dec. Min. Sec. W
Datum	Decimal Lat.	Decimal Long.
APN Book	Page	Parcel
Township	Range	Section



Activity	
<input checked="" type="radio"/> New Well	
<input type="radio"/> Modification/Repair	
<input type="radio"/> Deepen	
<input type="radio"/> Other	
<input type="radio"/> Destroy	Describe procedures and materials under "GEOLOGIC LOG"
Planned Uses	
<input type="checkbox"/> Water Supply	
<input type="checkbox"/> Domestic	<input type="checkbox"/> Public
<input type="checkbox"/> Irrigation	<input type="checkbox"/> Industrial
<input type="radio"/> Cathodic Protection	
<input type="radio"/> Dewatering	
<input type="radio"/> Heat Exchange	
<input type="radio"/> Injection	
<input checked="" type="radio"/> Monitoring	
<input type="radio"/> Remediation	
<input type="radio"/> Sparging	
<input type="radio"/> Test Well	
<input type="radio"/> Vapor Extraction	
<input type="radio"/> Other	

Water Level and Yield of Completed Well			
Depth to first water	(Feet below surface)		
Depth to Static			
Water Level	4.31	(Feet)	Date Measured 06/29/2010
Estimated Yield *	(GPM) Test Type		
Test Length	(Hours) Total Drawdown (Feet)		
*May not be representative of a well's long term yield.			

Casings							
Depth from Surface	Borehole Diameter	Type	Material	Wall Thickness	Outside Diameter	Screen Type	Slot Size if Any
Feet to Feet	(Inches)			(Inches)	(Inches)		(Inches)
0	40	8	Blank	PVC Sch. 40	0.154	2.375	
40	50	8	Screen	PVC Sch. 40	0.154	2.375	0.010

Annular Material			
Depth from Surface	Fill	Description	
Feet to Feet			
0	35, 5	Cement	
35, 5	38	Bentonite	Pellets
38	50	Filter Pack	#2/16 sand

Attachments
<input checked="" type="checkbox"/> Geologic Log
<input checked="" type="checkbox"/> Well Construction Diagram
<input type="checkbox"/> Geophysical Log(s)
<input type="checkbox"/> Soil/Water Chemical Analyses
<input type="checkbox"/> Other
Attach additional information, if it exists.

Certification Statement			
I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief			
Name <u>Woodward Drilling Co., INC.</u>			
Person, Firm or Corporation			
<u>550 River Road</u>	<u>Rio Vista</u>	<u>CA</u>	<u>94571</u>
Address		City	State Zip
Signed <u>Anthony E Woodward</u>	<u>7-22-10</u>	<u>710079</u>	
C-57 Licensed Water Well Contractor		Date Signed	C-57 License Number

WELL CONSTRUCTION APPLICATION

TO BE COMPLETED BY DISTRICT

District Permit No.: 10W00275	Date Issued: 6/3/10	Well Registration No.:
Geologic Setting: 1	Expiration Date: 12/3/10	Driller's Log No.: E0111089

TO BE COMPLETED BY OWNER AND DRILLER

Well Owner: US Department of the Navy - BRAC	Property Owner: National Aeronautics & Space Administration	Name of Business at Well Site: National Aeronautics & Space Administration
Well Owner's Mailing Address: 1455 Prazee Road, Suite 900 City, State, Zip San Diego, CA 92108	Property Owner's Mailing Address: NASA Ames Research Center, Building 237, Room 115 City, State, Zip Moffett Field, CA 94035	Address of Well Site: IR Site 28, Former Naval Air Station Moffett Field City, State, Zip Moffett Field, CA 94035
Telephone No. & Contact Name: Valerie Harris (619) 532-0981	Telephone No. & Contact Name: Donald Chuck (650) 604-0237	Telephone No.: None

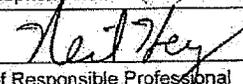
Owner's/Consultant's Well No.: 28OW-11 Assessor's Parcel No. of Well Site: Book 116 Page 18 Parcel 012

Consultant (Company): Shaw Environmental, Inc. Address: 4005 Port Chicago Highway City, State, Zip Concord, CA 94520-1120 Telephone No.: (925) 288-9898	Drilling Company: Woodward Drilling Address: P.O. Box 336, 550 River Road City, State, Zip Rio Vista, CA 94571 Telephone No.: (707) 374-4300	C-57 License No.: 710079
--	---	-----------------------------

Check if address or phone number has changed

Check if address or phone number has changed

THIS SECTION TO BE COMPLETED FOR ALL MONITORING WELLS OR EXTRACTION/RECOVERY WELLS

Case Name/No.:	Caseworker Name: Alana Lee
Oversight Agency: USEPA Region IX	Caseworker Telephone No.: (415) 972-3141
Type of Monitoring Device: <input checked="" type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	Signature of Responsible Professional  Neil Hey Print Name Civil Engineer Registration No. _____ OR PG 8006 Geologist Registration No. _____
Type of Extraction Device: <input type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	
Monitoring Well Use: <input type="checkbox"/> Depth <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Chloride	
Nested/Multi-Level Well: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
NOTE: If Nested/Multi-Level Well is proposed, a separate permit is needed for each casing.	

(No substitution of signature will be accepted)

Estimated Depth of Completed Well: Less than 50 feet 50 to 300 feet Over 300 feet Other: _____

Purpose of Well: Domestic Municipal/Industrial Agricultural Monitoring Cathodic Protection Other: _____

NOTE: Monitoring wells are those constructed for the purpose of obtaining repetitive water level measurements and/or repetitive air samples for analysis.

Well is to be constructed: In a public sidewalk In a public road On public property On private property On District property/easement*
 Within 50 feet of the top of a creek bank or District facility

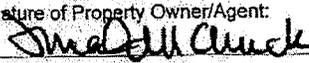
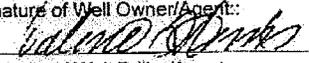
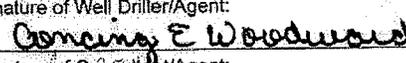
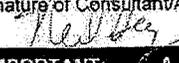
Within 50 feet of sanitary sewer: Yes No Within 50 feet of any existing well: Yes No

Within 100 feet of a pit privy, septic tank, or leachfield: Yes No Within 150 feet of a cesspool or seepage pit: Yes No

*See General Condition F, page 2. Other wells exist on this property? Yes No If yes, status: Active Inactive Abandoned

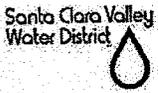
SIGNATURES

I understand and agree that all work associated with this permit is required to be done in accordance with Santa Clara Valley Water District (District) Well Ordinance 90-1, the District Well Standards, and the conditions of this permit (see page 2). I certify that the information given in this permit is correct to the best of my knowledge and that the signature below, whether original, electronic, or photocopied, is authorized and valid, and is affixed with the intent to be enforceable. I also certify that a right of entry/encroachment agreement has been formalized between the well owner and property owner, if parties differ. I also understand that it is my responsibility, as the well owner, to notify the District of any changes in the purpose of this well, from which, is indicated on this application.

Signature of Property Owner/Agent: 	Date: 5/21/2010	Print Name of Property Owner/Agent: Donald M. Chuck
Signature of Well Owner/Agent: 	Date: 5/21/2010	Print Name of Well Owner/Agent: Valerie Harris
Signature of Well Driller/Agent: 	Date: 5/24/2010	Print Name of Driller/Agent: Wayne Woodward
Signature of Consultant/Agent: 	Date: 5/25/2010	Print Name of Consultant/Agent: Neil Hey

IMPORTANT: A minimum 24-hour notice must be given to Santa Clara Valley Water District Well Inspection Department prior to installing the annular seal. Call (408) 265-2607, ext. 2660. For weekends, holidays, or after-hours, call (408) 265-2607, ext. 2120. Please allow 10 working days to process permit application.

MAY 25 2010



WELL CONSTRUCTION APPLICATION

DISTRICT WELL PERMIT NO.: _____

Based on information on this application and attachment(s) hereto (if any) and subject to approval noted below, permission is hereby granted to construct (drill) the described well. Permission to start work may be withheld until a field check verifies all statements made on application by permittee and is also subject to the "General" and "Special" Conditions stated below.

SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH APPROVAL (Water Supply Well Only)

NOTE: Department of Environmental Health approval must be granted before this application will be accepted by Santa Clara Valley Water District.

Approved by:

, R.E.H.S

- Approved as submitted
 Approved as corrected

Date:

SITE PLAN

A 8½" x 11" paper site plan must be attached to this application, including:

1. Location of site features, including major buildings, landscaped areas, tank fields, existing wells, etc.
2. North arrow and scale
3. Location of proposed well with dimensions in feet from well to nearest cross streets.

GENERAL CONDITIONS

- A. District (telephone 408-265-2607, ext. 2660) must be notified a minimum of one working day before construction of the annular seal. An authorized District representative must be on site to witness the construction of the annular seal. This requirement may be waived by an authorized District representative. If the District waives the inspection requirement, the District may request the permittee(s) to furnish certification, under penalty of perjury, that the well was constructed in accordance with the District Well Standards and with the permit conditions.
- B. Permittee agrees to construct, operate, and maintain the well according to provisions of the latest District Ordinance and the latest published revisions of District Well Standards to the end that this well will not cause pollution or contamination of groundwater or otherwise jeopardize the health, safety, or welfare of the people of the District.
- C. This permit is valid only for the purpose specified herein. Well construction methods authorized under this permit may not be changed except by written approval of an authorized District representative, and only if the District believes that such a change will result in equal or superior compliance with the District and State Well Standards (e.g., if the District representative finds that site conditions warrant such a change).
- D. This permit is only valid for the Assessor's Parcel No. indicated on it.
- E. This permit may be voided if it contains incorrect information. If the permit is voided after work has begun, the well or boring that was constructed under this permit must be destroyed in accordance with District and State Well Standards.
- F. If any work associated with this permit will take place on District property/easement, an encroachment or construction permit must be granted by the District's Community Projects Review Unit (telephone 408-265-2607, ext. 2589).
- G. Before the well constructed under this permit can be used as a drinking water source, its use must be approved by the regulatory agency with authority over such use (typically the Santa Clara County Department of Environmental Health or the State of California Department of Public Health). A completed Well Inventory Form must also be approved.
- H. If the well constructed under this permit cannot be or is not being used for its intended purpose, permittee is hereby required to destroy the well according to the District Well Standards and under permit from the District. Any test holes drilled under this permit must be destroyed within 24 hours of completion of testing activities. Destruction activities must be completed according to District standards. District must be notified a minimum of 24 hours prior to destruction.
- I. Within 30 days of the completion of the well construction activities, the driller or consultant identified on this permit shall fully complete State of California DWR Form 188 and mail the original to the District's Wells and Water Production Unit.
- J. The permittee(s) shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend, and hold the District, its officers, agents, and employees, free and harmless from any and all expense, cost, and liability in connection with or resulting from the granting or exercise of this permit including, but not limited to, property damage, personal injury, and wrongful death.
- K. Permittees are required to be in full compliance with Cal/OSHA California Labor Code Section 6300.
- L. A current C-57 Water Well Drilling Contractor's License is required for the construction of all wells.
- M. Permittee, permittee's contractors, consultants, or agents shall be responsible to assure that all materials or waters generated during drilling, well construction, well development, pump testing, or other activities associated with this permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on- or off-site storm sewers, dry wells, or waterways. Such materials/waters must not be allowed to move off the property where the work is being completed.
- N. The driller and consultants (if applicable) shall have an active copy of their Worker's Compensation Insurance on file with District.
- O. This permit shall expire if not exercised within 180 calendar days of its approval, unless an extension of the permit expiration date is granted by an authorized District representative.
- P. This permit must be kept on site during all activities associated with it and shall immediately be presented to an authorized District representative upon request.

SPECIAL CONDITIONS

Community Projects Review Unit Approval (if needed):

CPRU Permit No.:

Approved by:

Date:

Please allow 10 working days to process this application.



Drilling Log

Monitoring Well **28OW-11**

Page: 1 of 3

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816
 Surface Elev.* 20.9 ft. Total Hole Depth 50 ft. bgs North* 1975825.1 East* 6110431.4
 Top of Casing* 20.63 ft. Water Level Initial NA Static ▼ 3.9 ft. Diameter 8 in.
 Screen: Dia 2 in. Length 10 ft. Type/Slot Size Sch 40 PVC/0.010 in.
 Casing: Dia 2 in. Length 40 ft. Type Sch 40 PVC
 Fill Material See Comments Rig/Core BK81
 Drill Co. Woodward Drilling Method Hollow Stem Auger
 Driller Amador Arroyo Log By Michael Glas Well Inst. Date 6/16/10 Permit # 10W00275
 Checked By Timothy Ripp License No. CHG 786

COMMENTS
Annular Seal
Cement Grout 0-35.5'
Plug
Bentonite Chips 35.5-38'
Filter Pack
#2/16 Sand 38-50'
Screened Interval
Machine Slotted Sch 40 PVC
40-50'

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0	8" Vault					Hand-augered to 5'
0					SW	Asphalt surface
0						WELL GRADED SAND WITH GRAVEL, dark yellowish brown (10YR 4/4), 85% coarse to fine sand, 15% coarse to fine gravel, dry, angular
2	Sch 40 PVC 0-40'		100%		CL	CLAY, dark grayish brown (2.5Y 4/2), trace fine sand and silt, dry, firm, medium plasticity
4	Cement grout 0-36'					
6					ML	SILT, dark greenish gray (GLE Y1 4/1), trace fine sand, moist, soft, semi-plastic, iron oxide stained
6					CL	CLAY, olive gray (5Y 4/2), 80% clay, 20% silt, moist, firm, semi-plastic, iron oxide stained
8			20%		CH	CLAY, greenish black (GLE Y1 2.5/1), moist, soft, plastic, iron oxide stained, trace white shell fragments
10					SM	SILTY SAND, dark olive brown (2.5Y 3/3), 85% fine sand, 15% silt, trace coarse to medium sand, damp, medium dense, iron oxide stained
12			50%		ML	SILT, dark olive gray (5Y 3/2), 80% silt, 20% clay, moist, firm, semi-plastic, iron oxide stained
12					SM	SANDY SILT, dark olive gray (5Y 3/2), 70% silt, 30% fine sand, moist, soft, non-plastic, iron oxide stained
14					SM	SILTY SAND, greenish black (GLE Y1 2.5/1), 60% medium to fine sand, 40% silt, damp, medium dense, subrounded

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

Continued Next Page

*CCS Zone 3, NAD83, NAVD88



Drilling Log

Monitoring Well **28OW-11**

Page: 2 of 3

Project Site IR28 Treatability Study Owner U.S. Navy

Location Former NAS Moffett Field, CA Proj. No. 133816

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
16			60%		SM CL	CLAY WITH SAND, greenish black (GLE Y 2.5/1), 70% clay, 20% silt, 10% fine sand, moist, soft, semi-plastic SILTY SAND, greenish black (GLE Y 2.5/1), 85% fine sand, 15% silt, damp, medium dense, subrounded
18					SM	
20					CL	CLAY, olive gray (5Y 4/2), 80% clay, 20% silt, moist, firm, semi-plastic, iron oxide stained At 21': very dark greenish gray, 80% clay, 20% silt, trace fine sand, moist, hard, iron oxide stained, non-plastic.
22			100%		SM	SILTY SAND, very dark greenish gray (GLE Y 3/1), 80% fine sand, 20% silt, wet, medium dense, subangular, several small clay layers (~1" thick)
24					ML	SANDY SILT, very dark greenish gray (GLE Y 3/1), 70% silt, 30% fine sand, damp, soft, non-plastic
26					SM SW MH	SILTY SAND, very dark greenish gray (GLE Y 3/1), 85% fine sand, 15% silt, trace coarse and medium sand, trace fine gravel, wet, loose, subangular WELL GRADED SAND, dark olive brown (2.5Y 3/3), 95% coarse to fine sand, 5% fine gravel, wet, loose, rounded SILT, olive (5Y 4/3), trace fine sand, damp, soft, plastic
28			90%		CH	SANDY CLAY, olive brown (2.5Y 4/4), 70% clay, 30% coarse to fine sand, wet, soft, plastic, iron oxide stained
30					MH CL	SILT, very dark greenish gray (GLE Y 3/1), 60% silt, 30% clay, 5% sand, 5% fine gravel, wet, soft, plastic CLAY, olive (5Y 4/3), 70% clay, 30% silt, trace coarse to fine sand, moist, hard, semi-plastic
32			100%		SM CH	SILTY SAND, olive (5Y 4/3), 85% fine sand, 15% silt, trace coarse and medium sand, wet, medium dense, subrounded CLAY, olive (5Y 4/3), 80% clay, 20% silt, moist, firm, plastic
34						

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

Continued Next Page



Drilling Log

Monitoring Well **28OW-11**

Page: 3 of 3

Project Site IR28 Treatability Study Owner U.S. Navy

Location Former NAS Moffett Field, CA Proj. No. 133816

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
36					CH	CLAY, olive brown (2.5Y 4/4), 70% clay, 30% coarse gravel to silt, wet, soft, plastic
36					SM	SILTY SAND, olive (5Y 4/3), 70% medium to fine sand, 30% silt, trace coarse sand, wet, medium dense, subangular to subrounded
36-38		Bentonite Chips 36-38'				
38					MH	SILT, olive (5Y 4/3), 60% silt, 40% clay, moist, firm, iron oxide stained, plastic Trace fine gravel to fine sand.
38-50		#2/16 Sand 38-50'				
40					CL	CLAY, olive gray (5Y 4/2), 60% clay, 40% silt, hard, semi-plastic, moist
42					ML	SANDY SILT, olive gray (5Y 4/2), 70% silt, 30% fine sand, trace coarse and medium sand, wet, soft, non-plastic, iron oxide stained
42					CH	CLAY, olive brown (2.5Y 4/3), 85% clay, 15% fine gravel to fine sand, wet, soft, plastic
44						
44-50		0.010" Sch 40 PVC 40-50'				
46					SW-SM	WELL GRADED SAND WITH GRAVEL, olive (5Y 4/4), 80% coarse to fine sand, 10% fine gravel, 10% silt, wet, loose, angular to subangular
48					CH	CLAY, light olive brown (2.5Y 5/3), 60% clay, 40% silt, moist, firm, plastic At 49': olive (5Y 4/3), wet, firm, plastic.
50		Threaded cap with gasket				
52						Boring terminated at 50 feet.

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

File Original with DWR

State of California

Well Completion Report

Ref. to Instruction Pamphlet
No. ~~XXXXXX~~ e0111088

Page 1 of 2

Owner's Well Number 28OW-12

Date Work Began 06/23/2010 Date Work Ended 6/23/2010

Local Permit Agency Santa Clara Valley Water District

Permit Number 10W00274 Permit Date 6/3/10

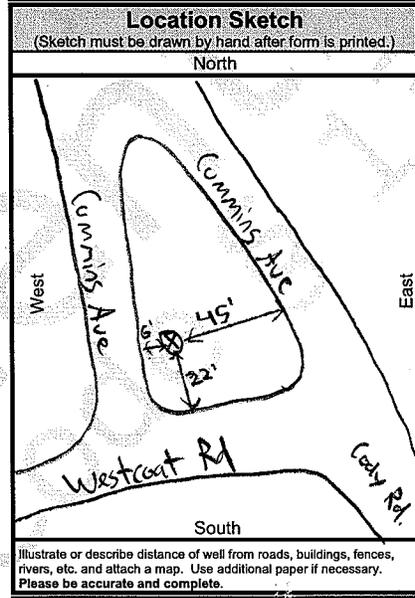
DWR Use Only - Do Not Fill In

State Well Number/Site Number	
Latitude	Longitude
APN/TRS/Other	

Geologic Log				
Orientation	Vertical	Horizontal	Angle	Specify
Drilling Method <u>Hollow Stem Auger</u>		Drilling Fluid _____		
Depth from Surface		Description		
Feet	to Feet	Describe material, grain size, color, etc		
0	0.5	Coarse landscaping gravel		
0.5	1	Well graded sand with gravel - olive		
1	5	Clay - very dark grayish brown		
5	6.5	Clay - dark greenish gray		
6.5	8	Silt - olive gray		
8	10	Clay - olive brown		
10	12	Silt - dark olive brown		
12	12.5	Silt - very dark greenish gray		
12.5	15	No recovery		
15	15.5	Silt - very dark greenish gray		
15.5	16	Silty sand - greenish black		
16	18.5	Clay - very dark greenish gray		
18.5	19	Silty sand - dark olive gray		
19	19.5	Silt - olive gray		
19.5	20	No recovery		
20	21	Clay - dark grayish brown		
21	22.5	Silty sand - olive brown		
22.5	23	Clay - light olive brown		
23	25	Clay - olive brown		
25	27.5	Clay - light olive brown		
27.5	28.5	Silty sand - olive		
28.5	29	Poorly graded sand - olive brown		
29	30	Well graded sand - olive brown		
30	32	Well graded sand - very dark grayish brown		
32	33	Silty sand - olive brown		
33	35	No recovery		
35	36.5	Poorly graded sand - olive brown		
36.5	40	No recovery		
40	50	Clay - olive		
50	55	Clay - olive brown		
Total Depth of Boring		65	Feet	
Total Depth of Completed Well		65	Feet	

Well Owner	
Name	<u>U.S. Department of the Navy</u>
Mailing Address	<u>1455 Frazee Road, Suite 900</u>
City	<u>San Diego</u> State <u>CA</u> Zip <u>92108</u>

Well Location	
Address	<u>Site 28, Former Naval Air Station Moffett Field</u>
City	<u>Moffett Field</u> County <u>Santa Clara</u>
Latitude	____ N Longitude ____ W
Datum	____ Decimal Lat. ____ Decimal Long. ____
APN Book	____ Page ____ Parcel ____
Township	____ Range ____ Section ____



Activity
<input checked="" type="radio"/> New Well <input type="radio"/> Modification/Repair <input type="radio"/> Deepen <input type="radio"/> Other _____ <input type="radio"/> Destroy <small>Describe procedures and materials under "GEOLOGIC LOG"</small>
Planned Uses
<input type="radio"/> Water Supply <input type="checkbox"/> Domestic <input type="checkbox"/> Public <input type="checkbox"/> Irrigation <input type="checkbox"/> Industrial <input type="radio"/> Cathodic Protection <input type="radio"/> Dewatering <input type="radio"/> Heat Exchange <input type="radio"/> Injection <input checked="" type="radio"/> Monitoring <input type="radio"/> Remediation <input type="radio"/> Sparging <input type="radio"/> Test Well <input type="radio"/> Vapor Extraction <input type="radio"/> Other _____

Water Level and Yield of Completed Well	
Depth to first water	____ (Feet below surface)
Depth to Static	____
Water Level	<u>3.9</u> (Feet) Date Measured <u>06/30/2010</u>
Estimated Yield *	____ (GPM) Test Type _____
Test Length	____ (Hours) Total Drawdown ____ (Feet)
*May not be representative of a well's long term yield.	

Casings							
Depth from Surface	Borehole Diameter	Type	Material	Wall Thickness	Outside Diameter	Screen Type	Slot Size if Any
Feet to Feet	(Inches)			(Inches)	(Inches)		(Inches)
0	55	8	Blank	PVC Sch. 40	0.154	2.375	
55	65	8	Screen	PVC Sch. 40	0.154	2.375	0.010

Annular Material			
Depth from Surface	Fill	Description	
Feet to Feet			
0	50.5	Cement	
50.5	53	Bentonite	Pellets
53	65	Filter Pack	#2/16 sand

Attachments
<input checked="" type="checkbox"/> Geologic Log <input checked="" type="checkbox"/> Well Construction Diagram <input type="checkbox"/> Geophysical Log(s) <input type="checkbox"/> Soil/Water Chemical Analyses <input type="checkbox"/> Other _____
<small>Attach additional information, if it exists.</small>

Certification Statement	
I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief	
Name <u>Woodward Drilling Co., INC.</u>	
<small>Person, Firm or Corporation</small>	
<u>550 River Road</u>	<u>Rio Vista</u> <u>CA</u> <u>94571</u>
<small>Address</small>	<small>City State Zip</small>
Signed <u>Gregory S Woodward</u>	<u>7-22-10</u> <u>210079</u>
<small>C-57 Licensed Water Well Contractor</small>	<small>Date Signed C-57 License Number</small>

WELL CONSTRUCTION APPLICATION

TO BE COMPLETED BY DISTRICT

District Permit No.: <u>10W00274</u>	Date Issued: <u>6/3/10</u>	Well Registration No.:
Geologic Setting: <u>1</u>	Expiration Date: <u>12/3/10</u>	Driller's Log No.: <u>E011088</u>

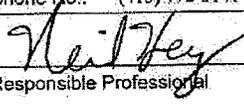
TO BE COMPLETED BY OWNER AND DRILLER

Well Owner: US Department of the Navy - BRAC	Property Owner: National Aeronautics & Space Administration	Name of Business at Well Site: National Aeronautics & Space Administration
Well Owner's Mailing Address: 1455 Frazee Road, Suite 900 City, State, Zip San Diego, CA 92108	Property Owner's Mailing Address: NASA Ames Research Center, Building 237, Room 115 City, State, Zip Moffett Field, CA 94035	Address of Well Site: IR Site 28, Former Naval Air Station Moffett Field City, State, Zip Moffett Field, CA 94035
Telephone No. & Contact Name: Valerie Harris (619) 532-0981	Telephone No. & Contact Name: Donald Chuck (650) 604-0237	Telephone No.: None

Owner's/Consultant's Well No.: 280W-12 Assessor's Parcel No. of Well Site: Book 116 Page 18 Parcel 012

Consultant (Company): Shaw Environmental, Inc. Address: 4005 Part Chicago Highway City, State, Zip Concord, CA 94520-1120	Drilling Company: Woodward Drilling Address: P.O. Box 336, 550 River Road City, State, Zip Rio Vista, CA 94571	
Telephone No.: (925) 288-9898	Telephone No.: (707) 374-4300	C-57 License No.: 710079
<input type="checkbox"/> Check if address or phone number has changed	<input type="checkbox"/> Check if address or phone number has changed	

THIS SECTION TO BE COMPLETED FOR ALL MONITORING WELLS OR EXTRACTION/RECOVERY WELLS

Case Name/No.:	Caseworker Name: <u>Alana Lee</u>
Oversight Agency: <u>USEPA Region IX</u>	Caseworker Telephone No.: <u>(415) 972-3141</u>
Type of Monitoring Device: <input checked="" type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	Signature of Responsible Professional  Neil Hey Print Name Civil Engineer Registration No. _____ OR PG 8006 Geologist Registration No. _____
Type of Extraction Device: <input type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	
Monitoring Well Use: <input type="checkbox"/> Depth <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Chloride	
Nested/Multi-Level Well: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
NOTE: If Nested/Multi-Level Well is proposed, a separate permit is needed for each casing.	

Estimated Depth of Completed Well: Less than 50 feet 50 to 300 feet Over 300 feet Other: _____

Purpose of Well: Domestic Municipal/Industrial Agricultural Monitoring Cathodic Protection Other: _____

NOTE: Monitoring wells are those constructed for the purpose of obtaining repetitive water level measurements and/or repetitive air samples for analysis.

Well is to be constructed: In a public sidewalk In a public road On public property On private property On District property/easement*

Within 50 feet of the top of a creek bank or District facility

Within 50 feet of sanitary sewer: Yes No

Within 50 feet of any existing well: Yes No

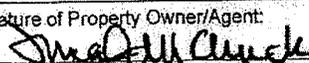
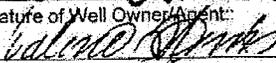
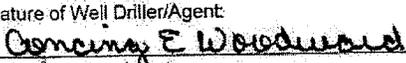
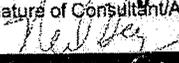
Within 100 feet of a pit privy, septic tank, or leachfield: Yes No

Within 150 feet of a cesspool or seepage pit: Yes No

*See General Condition F, page 2. Other wells exist on this property? Yes No If yes, status: Active Inactive Abandoned

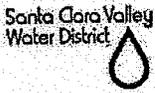
SIGNATURES

I understand and agree that all work associated with this permit is required to be done in accordance with Santa Clara Valley Water District (District) Well Ordinance 90-1, the District Well Standards, and the conditions of this permit (see page 2). I certify that the information given in this permit is correct to the best of my knowledge and that the signature below, whether original, electronic, or photocopied, is authorized and valid, and is affixed with the intent to be enforceable. I also certify that a right of entry/encroachment agreement has been formalized between the well owner and property owner, if parties differ. I also understand that it is my responsibility, as the well owner, to notify the District of any changes in the purpose of this well, from which, is indicated on this application.

Signature of Property Owner/Agent: 	Date: <u>5/21/2010</u>	Print Name of Property Owner/Agent: Donald M. Chuck
Signature of Well Owner/Agent: 	Date: <u>5/21/2010</u>	Print Name of Well Owner/Agent: Valerie Harris
Signature of Well Driller/Agent: 	Date: <u>5/24/2010</u>	Print Name of Driller/Agent: Wayne Woodward
Signature of Consultant/Agent: 	Date: <u>5/25/2010</u>	Print Name of Consultant/Agent: Neil Hey

IMPORTANT: A minimum 24-hour notice must be given to Santa Clara Valley Water District Well Inspection Department prior to installing the annular seal. Call (408) 265-2607, ext. 2660. For weekends, holidays, or after-hours, call (408) 265-2607, ext. 2120. Please allow 10 working days to process permit application.

MAY 26 2010



5750 Almaden Expressway
San Jose, CA 95118-3686
(408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 158 (05-07-08)
Page 2 of 2

DISTRICT WELL PERMIT NO.: _____

Based on information on this application and attachment(s) hereto (if any) and subject to approval noted below, permission is hereby granted to construct (drill) the described well. Permission to start work may be withheld until a field check verifies all statements made on application by permittee and is also subject to the "General" and "Special" Conditions stated below.

SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH APPROVAL (Water Supply Well Only)

NOTE: Department of Environmental Health approval must be granted before this application will be accepted by Santa Clara Valley Water District.

Approved by:

_____, R.E.H.S

- Approved as submitted
 Approved as corrected

Date:

SITE PLAN

A 8½" x 11" paper site plan must be attached to this application, including:

1. Location of site features, including major buildings, landscaped areas, tank fields, existing wells, etc.
2. North arrow and scale
3. Location of proposed well with dimensions in feet from well to nearest cross streets.

GENERAL CONDITIONS

- A. District (telephone 408-265-2607, ext. 2660) must be notified a minimum of one working day before construction of the annular seal. An authorized District representative must be on site to witness the construction of the annular seal. This requirement may be waived by an authorized District representative. If the District waives the inspection requirement, the District may request the permittee(s) to furnish certification, under penalty of perjury, that the well was constructed in accordance with the District Well Standards and with the permit conditions.
- B. Permittee agrees to construct, operate, and maintain the well according to provisions of the latest District Ordinance and the latest published revisions of District Well Standards to the end that this well will not cause pollution or contamination of groundwater or otherwise jeopardize the health, safety, or welfare of the people of the District.
- C. This permit is valid only for the purpose specified herein. Well construction methods authorized under this permit may not be changed except by written approval of an authorized District representative, and only if the District believes that such a change will result in equal or superior compliance with the District and State Well Standards (e.g., if the District representative finds that site conditions warrant such a change).
- D. This permit is only valid for the Assessor's Parcel No. indicated on it.
- E. This permit may be voided if it contains incorrect information. If the permit is voided after work has begun, the well or boring that was constructed under this permit must be destroyed in accordance with District and State Well Standards.
- F. If any work associated with this permit will take place on District property/easement, an encroachment or construction permit must be granted by the District's Community Projects Review Unit (telephone 408-265-2607, ext. 2589).
- G. Before the well constructed under this permit can be used as a drinking water source, its use must be approved by the regulatory agency with authority over such use (typically the Santa Clara County Department of Environmental Health or the State of California Department of Public Health). A completed Well Inventory Form must also be approved.
- H. If the well constructed under this permit cannot be or is not being used for its intended purpose, permittee is hereby required to destroy the well according to the District Well Standards and under permit from the District. Any test holes drilled under this permit must be destroyed within 24 hours of completion of testing activities. Destruction activities must be completed according to District standards. District must be notified a minimum of 24 hours prior to destruction.
- I. Within 30 days of the completion of the well construction activities, the driller or consultant identified on this permit shall fully complete State of California DWR Form 188 and mail the original to the District's Wells and Water Production Unit.
- J. The permittee(s) shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend, and hold the District, its officers, agents, and employees, free and harmless from any and all expense, cost, and liability in connection with or resulting from the granting or exercise of this permit including, but not limited to, property damage, personal injury, and wrongful death.
- K. Permittees are required to be in full compliance with Cal/OSHA California Labor Code Section 6300.
- L. A current C-57 Water Well Drilling Contractor's License is required for the construction of all wells.
- M. Permittee, permittee's contractors, consultants, or agents shall be responsible to assure that all materials or waters generated during drilling, well construction, well development, pump testing, or other activities associated with this permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on- or off-site storm sewers, dry wells, or waterways. Such materials/waters must not be allowed to move off the property where the work is being completed.
- N. The driller and consultants (if applicable) shall have an active copy of their Worker's Compensation Insurance on file with District.
- O. This permit shall expire if not exercised within 180 calendar days of its approval, unless an extension of the permit expiration date is granted by an authorized District representative.
- P. This permit must be kept on site during all activities associated with it and shall immediately be presented to an authorized District representative upon request.

SPECIAL CONDITIONS

Community Projects Review Unit Approval (if needed):

CPRU Permit No.:

Approved by:

Date:

Please allow 10 working days to process this application.



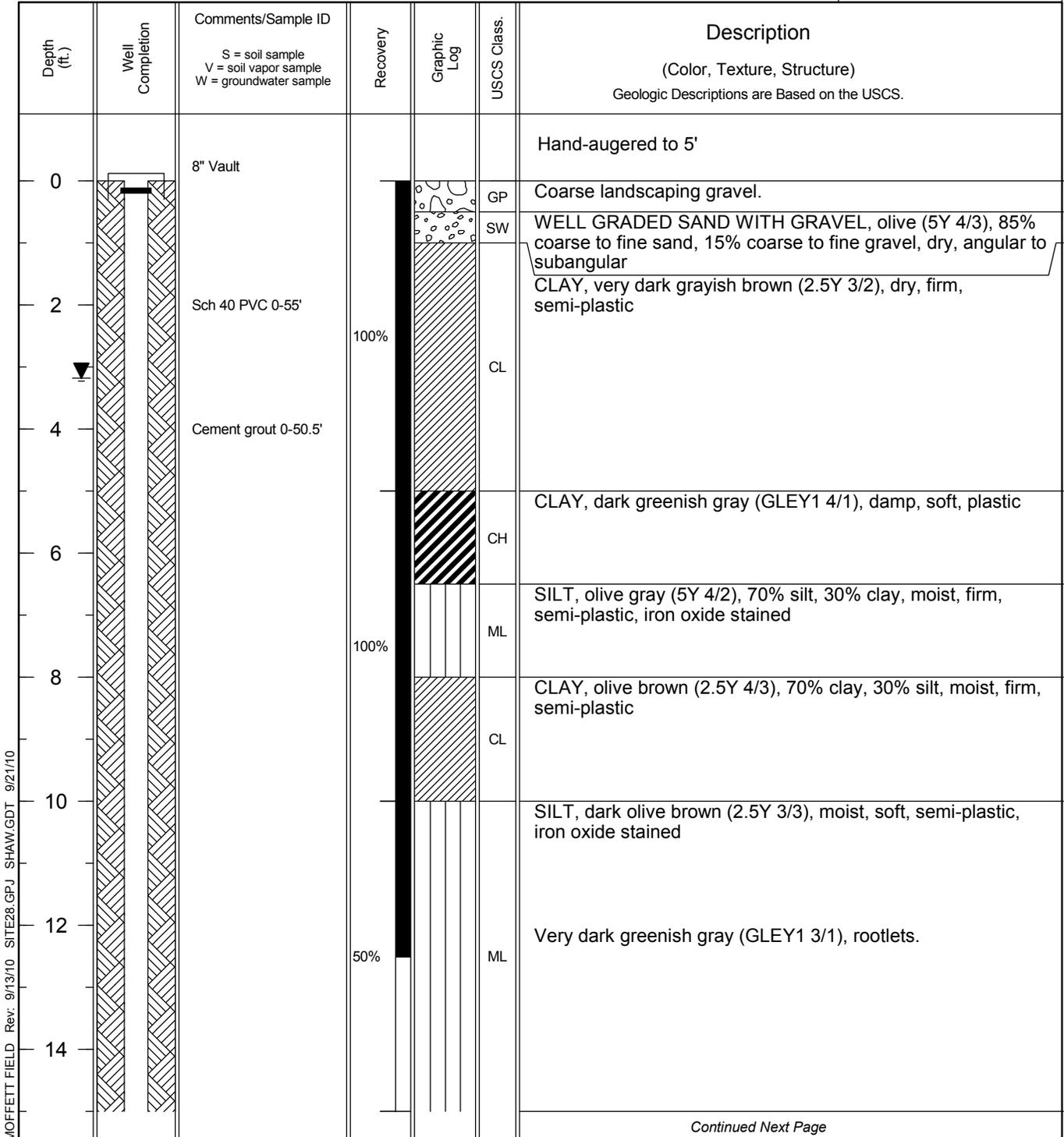
Drilling Log

Monitoring Well **28OW-12**

Page: 1 of 4

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816
 Surface Elev.* 20.4 ft. Total Hole Depth 65 ft. bgs North* 1975909.4 East* 6110435.7
 Top of Casing* 20.06 ft. Water Level Initial NA Static ▼ 3.2 ft. Diameter 8 in.
 Screen: Dia 2 in. Length 10 ft. Type/Slot Size Sch 40 PVC/0.010 in.
 Casing: Dia 2 in. Length 55 ft. Type Sch 40 PVC
 Fill Material See Comments Rig/Core BK81
 Drill Co. Woodward Drilling Method Hollow Stem Auger
 Driller Amador Arroyo Log By Michael Glas Well Inst. Date 6/23/10 Permit # 10W00274
 Checked By Timothy Ripp License No. CHG 786

COMMENTS
Annular Seal
Cement Grout 0-50.5'
Plug
Bentonite Chips 50.5-53'
Filter Pack
#2/16 Sand 53-65'
Screened Interval
Machine Slotted Sch 40 PVC
55-65'



Continued Next Page

*CCS Zone 3, NAD83, NAVD88



Drilling Log

Monitoring Well **28OW-12**

Page: 2 of 4

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
16			90%		ML	SILT, very dark greenish gray (GLEY1 3/1), wet, soft, nonplastic
					SM	SILTY SAND, greenish black (GLEY1 2.5/1), 75% fine sand, 25% silt, wet, medium dense, subangular to subrounded
18					CH	CLAY, very dark greenish gray (GLEY1 3/1), 70% clay, 30% silt, trace sand, damp, soft, plastic
20					SM	SILTY SAND, dark olive gray (5Y 3/2), 85% coarse to fine sand, 15% silt, wet, loose, angular to subrounded
					ML	SILT, olive gray (5Y 4/2), 95% silt, 5% fine sand, damp, soft, semi-plastic
22			100%		CH	CLAY, dark grayish brown (2.5Y 4/2), 80% clay, 20% silt, damp, firm, plastic, iron oxide stained
					SM	SILTY SAND, olive brown (2.5Y 4/3), 70% fine sand, 30% silt, damp, medium dense, subangular to subrounded Wet.
24					CL	CLAY, light olive brown (2.5Y 5/3), damp, soft, non-plastic
					CH	CLAY, olive brown (2.5Y 4/3), moist, hard, plastic
26					CL	CLAY, light olive brown (2.5Y 5/3), 60% clay, 40% silt, damp, soft, semi-plastic
28			100%		SM	SILTY SAND, olive (5Y 4/3), 85% coarse to fine sand, 15% silt, trace fine gravel, wet, loose, rounded to subrounded
					SP	POORLY GRADED SAND, olive brown (2.5Y 4/4), fine sand, wet, medium dense, subangular to subrounded
30					SW	WELL GRADED SAND, olive brown (2.5Y 4/3), coarse to fine sand, wet, medium dense, rounded to subrounded
					SW	WELL GRADED SAND, very dark grayish brown (2.5Y 3/2), coarse to fine sand, wet, loose, rounded to subrounded, trace fine gravel
32			60%		SM	SILTY SAND, olive brown (2.5Y 4/3), 80% coarse to fine sand, 20% silt and clay, wet, loose, rounded to subrounded, trace fine gravel
34					SP	POORLY GRADED SAND, olive brown (2.5Y 4/3), medium

MOFFETT FIELD Rev. 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

Continued Next Page



Drilling Log

Monitoring Well **28OW-12**

Page: 3 of 4

Project Site IR28 Treatability Study Owner U.S. Navy

Location Former NAS Moffett Field, CA Proj. No. 133816

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
36					SP	sand, trace fine sand, wet, medium dense, rounded to subrounded
38			30%			CLAY, olive (5Y 4/3), 70% clay, 30% silt, trace sand, damp, soft, plastic
40			100%		CH	
42						
44						At 44': firm, iron oxide stained.
46						At 45': olive (5Y 5/3), moist, hard, plastic, trace sand.
48			100%			CLAY, olive (5Y 4/3), 70% clay, 30% silt, damp, firm, semi-plastic
50					CL	At 50': olive brown (2.5Y 4/3), moist, firm, semi-plastic, iron oxide stained
52		Bentonite Chips 50.5-53'	100%			

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

Continued Next Page



Drilling Log

Monitoring Well **28OW-12**

Page: 4 of 4

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
54		#2/16 Sand 53-65'			CL	Hard.
56					SC	CLAYEY SAND, olive (5Y 4/3), 60% coarse sand, 30% clay, trace medium to fine sand, wet, dense, rounded
					ML	SILT, olive (5Y 4/2), 60% silt, 40% clay, wet, soft, semi-plastic
58			90%		CH	CLAY, olive gray (5Y 4/2), moist, hard, plastic
60	0.010" Sch 40 PVC 55-65'					At 60': olive brown (2.5Y 4/4), trace sand, wet, soft, plastic.
62			100%		CL	CLAY, olive (5Y 4/3), 60% clay, 40% silt, moist, firm, semi-plastic, iron oxide stained At 63': olive gray (5Y 4/2), moist, hard, non-plastic, iron oxide stained.
64					SP	POORLY GRADED SAND, olive (5Y 4/3), fine sand, wet, dense, rounded to subrounded
					CL	CLAY, olive gray (5Y 4/2), moist, hard, non-plastic, iron oxide stained
66	Threaded cap with gasket					Boring terminated at 65 feet.
68						
70						
72						

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

File Original with DWR

State of California
Well Completion Report

Refer to Instruction Pamphlet
No. ~~XXXXXX~~ 20111087

Page 1 of 1

Owner's Well Number 28OW-13

Date Work Began 06/22/2010

Date Work Ended 6/22/2010

Local Permit Agency Santa Clara Valley Water District

Permit Number 10W00273

Permit Date 6/3/10

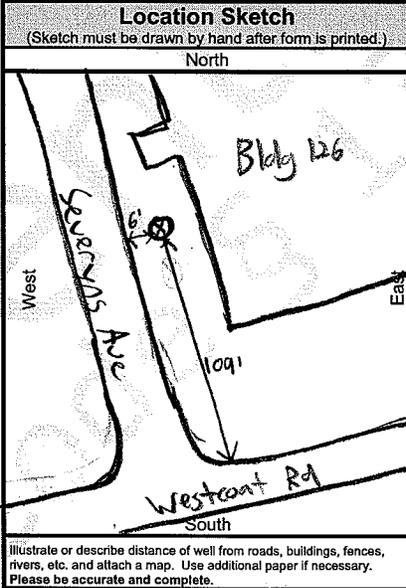
DWR Use Only - Do Not Fill In

State Well Number/Site Number			
N		W	
Latitude		Longitude	
APN/TRS/Other			

Geologic Log		
Orientation <input checked="" type="radio"/> Vertical <input type="radio"/> Horizontal <input type="radio"/> Angle Specify _____		
Drilling Method <u>Hollow Stem Auger</u> Drilling Fluid _____		
Depth from Surface		Description
Feet	to Feet	Describe material, grain size, color, etc
0	0.5	Concrete
0.5	2	Well graded sand - olive brown
2	5	Clay - dark olive gray
5	6.5	Silty sand with gravel - olive gray
6.5	8	Silt - dark olive gray
8	10	No recovery
10	12.5	Silt - dark olive gray
12.5	15	Clay - greenish black
15	16	Silty sand - greenish black
16	17.5	Clay - very dark greenish gray
17.5	18	No recovery
Total Depth of Boring <u>18</u> Feet		
Total Depth of Completed Well <u>18</u> Feet		

Well Owner	
Name	<u>U.S. Department of the Navy</u>
Mailing Address	<u>1455 Frazee Road, Suite 900</u>
City	<u>San Diego</u> State <u>CA</u> Zip <u>92108</u>

Well Location	
Address	<u>Site 28, Former Naval Air Station Moffett Field</u>
City	<u>Moffett Field</u> County <u>Santa Clara</u>
Latitude	_____ N Longitude _____ W
Datum	Decimal Lat. _____ Decimal Long. _____
APN Book	Page _____ Parcel _____
Township	Range _____ Section _____



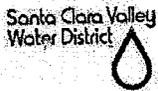
Water Level and Yield of Completed Well	
Depth to first water	_____ (Feet below surface)
Depth to Static	_____
Water Level	<u>9.55</u> (Feet) Date Measured <u>06/29/2010</u>
Estimated Yield *	_____ (GPM) Test Type _____
Test Length	_____ (Hours) Total Drawdown _____ (Feet)
*May not be representative of a well's long term yield.	

Casings							
Depth from Surface	Borehole Diameter	Type	Material	Wall Thickness	Outside Diameter	Screen Type	Slot Size if Any
Feet to Feet	(Inches)			(Inches)	(Inches)		(Inches)
0	13	Blank	PVC Sch. 40	0.154	2.375		
13	18	Screen	PVC Sch. 40	0.154	2.375	Slots	0.010

Annular Material			
Depth from Surface	Fill	Description	
Feet to Feet			
0	9	Cement	
9	11	Bentonite	Pellets
11	18	Filter Pack	#2/16 sand

Attachments
<input checked="" type="checkbox"/> Geologic Log <input checked="" type="checkbox"/> Well Construction Diagram <input type="checkbox"/> Geophysical Log(s) <input type="checkbox"/> Soil/Water Chemical Analyses <input type="checkbox"/> Other _____
<small>Attach additional information, if it exists.</small>

Certification Statement	
I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief	
Name	<u>Woodward Drilling Co., INC.</u>
Person, Firm or Corporation	
Address	<u>550 River Road</u> City <u>Rio Vista</u> State <u>CA</u> Zip <u>94571</u>
Signed	<u>Conroy E Woodward</u> Date Signed <u>7-22-10</u> C-57 License Number <u>710079</u>
	C-57 Licensed Water Well Contractor



5750 Almaden Expressway
San Jose, CA 95118-3686
(408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 158 (05 07-08)
Page 1 of 2

TO BE COMPLETED BY DISTRICT

District Permit No.: 10W00273	Date Issued: 6/3/10	Well Registration No.:
Geologic Setting: 1	Expiration Date: 12/3/10	Driller's Log No.: E0111087

TO BE COMPLETED BY OWNER AND DRILLER

Well Owner: US Department of the Navy - BRAC	Property Owner: National Aeronautics & Space Administration	Name of Business at Well Site: National Aeronautics & Space Administration
Well Owner's Mailing Address: 1455 Frazee Road, Suite 900 City, State, Zip San Diego, CA 92108	Property Owner's Mailing Address: NASA Ames Research Center, Building 237, Room 115 City, State, Zip Moffett Field, CA 94035	Address of Well Site: IR Site 28, Former Naval Air Station Moffett Field City, State, Zip Moffett Field, CA 94035
Telephone No. & Contact Name: Valerie Harris (619) 532-0981	Telephone No. & Contact Name: Donald Chuck (650) 604-0237	Telephone No.: None

Owner's/Consultant's Well No.: **280W-13** Assessor's Parcel No. of Well Site: Book **116** Page **18** Parcel **012**

Consultant (Company): Shaw Environmental, Inc. Address: 4005 Port Chicago Highway City, State, Zip Concord, CA 94520-1120 Telephone No.: (925) 288-9898	Drilling Company: Woodward Drilling Address: P.O. Box 336, 550 River Road City, State, Zip Rio Vista, CA 94571 Telephone No.: (707) 374-4300	C-57 License No.: 710079
---	--	-----------------------------

Check if address or phone number has changed

THIS SECTION TO BE COMPLETED FOR ALL MONITORING WELLS OR EXTRACTION/RECOVERY WELLS

Case Name/No.:	Caseworker Name: Alana Lee
Oversight Agency: USEPA Region IX	Caseworker Telephone No.: (415) 972-3141
Type of Monitoring Device: <input checked="" type="checkbox"/> Groundwater <input type="checkbox"/> Vadose Type of Extraction Device: <input type="checkbox"/> Groundwater <input type="checkbox"/> Vadose Monitoring Well Use: <input type="checkbox"/> Depth <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Chloride Nested/Multi-Level Well: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No NOTE: If Nested/Multi-Level Well is proposed, a separate permit is needed for each casing.	<p>(No substitution of signature will be accepted)</p> <p><i>Neil Hey</i> Signature of Responsible Professional Neil Hey Print Name</p> <p>_____ Civil Engineer Registration No. OR PG 8006 Geologist Registration No.</p>

Estimated Depth of Completed Well: Less than 50 feet 50 to 300 feet Over 300 feet Other: _____

Purpose of Well: Domestic Municipal/Industrial Agricultural Monitoring Cathodic Protection Other: _____

NOTE: Monitoring wells are those constructed for the purpose of obtaining repetitive water level measurements and/or repetitive air samples for analysis.

Well is to be constructed: In a public sidewalk In a public road On public property On private property On District property/easement*
 Within 50 feet of the top of a creek bank or District facility

Within 50 feet of sanitary sewer: Yes No Within 50 feet of any existing well: Yes No

Within 100 feet of a pit privy, septic tank, or leachfield: Yes No Within 150 feet of a cesspool or seepage pit: Yes No

*See General Condition F, page 2. Other wells exist on this property? Yes No If yes, status: Active Inactive Abandoned

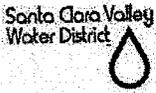
SIGNATURES

I understand and agree that all work associated with this permit is required to be done in accordance with Santa Clara Valley Water District (District) Well Ordinance 90-1, the District Well Standards, and the conditions of this permit (see page 2). I certify that the information given in this permit is correct to the best of my knowledge and that the signature below, whether original, electronic, or photocopied, is authorized and valid, and is affixed with the intent to be enforceable. I also certify that a right of entry/encroachment agreement has been formalized between the well owner and property owner, if parties differ. I also understand that it is my responsibility, as the well owner, to notify the District of any changes in the purpose of this well, from which, is indicated on this application.

Signature of Property Owner/Agent: <i>Donald M. Chuck</i>	Date: 5/21/2010	Print Name of Property Owner/Agent: Donald M. Chuck
Signature of Well Owner/Agent: <i>Valerie Harris</i>	Date: 5/21/2010	Print Name of Well Owner/Agent: Valerie Harris
Signature of Well Driller/Agent: <i>Wayne Woodward</i>	Date: 5/24/2010	Print Name of Driller/Agent: Wayne Woodward
Signature of Consultant/Agent: <i>Neil Hey</i>	Date: 5/25/2010	Print Name of Consultant/Agent: Neil Hey

IMPORTANT: A minimum 24-hour notice must be given to Santa Clara Valley Water District Well Inspection Department prior to installing the annular seal. Call (408) 265-2607, ext. 2660. For weekends, holidays, or after-hours, call (408) 265-2607, ext. 2120. Please allow 10 working days to process permit application.

MAY 25 2010



5750 Almaden Expressway
 San Jose, CA 95118-3686
 (408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 158 (05-07-08)
 Page 2 of 2

DISTRICT WELL PERMIT NO.: _____

Based on information on this application and attachment(s) hereto (if any) and subject to approval noted below, permission is hereby granted to construct (drill) the described well. Permission to start work may be withheld until a field check verifies all statements made on application by permittee and is also subject to the "General" and "Special" Conditions stated below.

SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH APPROVAL (Water Supply Well Only)

NOTE: Department of Environmental Health approval must be granted before this application will be accepted by Santa Clara Valley Water District.

Approved by:

_____, R.E.H.S

- Approved as submitted
- Approved as corrected

Date: _____

SITE PLAN

A 8½" x 11" paper site plan must be attached to this application, including:

1. Location of site features, including major buildings, landscaped areas, tank fields, existing wells, etc.
2. North arrow and scale
3. Location of proposed well with dimensions in feet from well to nearest cross streets.

GENERAL CONDITIONS

- A. District (telephone 408-265-2607, ext. 2660) **must be notified a minimum of one working day before construction of the annular seal.** An authorized District representative must be on site to witness the construction of the annular seal. This requirement may be waived by an authorized District representative. If the District waives the inspection requirement, the District may request the permittee(s) to furnish certification, under penalty of perjury, that the well was constructed in accordance with the District Well Standards and with the permit conditions.
- B. Permittee agrees to construct, operate, and maintain the well according to provisions of the latest District Ordinance and the latest published revisions of District Well Standards to the end that this well will not cause pollution or contamination of groundwater or otherwise jeopardize the health, safety, or welfare of the people of the District.
- C. This permit is valid only for the purpose specified herein. Well construction methods authorized under this permit may not be changed except by written approval of an authorized District representative, and only if the District believes that such a change will result in equal or superior compliance with the District and State Well Standards (e.g., if the District representative finds that site conditions warrant such a change).
- D. This permit is only valid for the Assessor's Parcel No. indicated on it.
- E. This permit may be voided if it contains incorrect information. If the permit is voided after work has begun, the well or boring that was constructed under this permit must be destroyed in accordance with District and State Well Standards.
- F. If any work associated with this permit will take place on District property/easement, an encroachment or construction permit must be granted by the District's Community Projects Review Unit (telephone 408-265-2607, ext. 2589).
- G. Before the well constructed under this permit can be used as a drinking water source, its use must be approved by the regulatory agency with authority over such use (typically the Santa Clara County Department of Environmental Health or the State of California Department of Public Health). A completed Well Inventory Form must also be approved.
- H. If the well constructed under this permit cannot be or is not being used for its intended purpose, permittee is hereby required to destroy the well according to the District Well Standards and under permit from the District. Any test holes drilled under this permit must be destroyed within 24 hours of completion of testing activities. Destruction activities must be completed according to District standards. District must be notified a minimum of 24 hours prior to destruction.
- I. Within 30 days of the completion of the well construction activities, the driller or consultant identified on this permit shall fully complete State of California DWR Form 188 and mail the original to the District's Wells and Water Production Unit.
- J. The permittee(s) shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend, and hold the District, its officers, agents, and employees, free and harmless from any and all expense, cost, and liability in connection with or resulting from the granting or exercise of this permit including, but not limited to, property damage, personal injury, and wrongful death.
- K. Permittees are required to be in full compliance with Cal/OSHA California Labor Code Section 6300.
- L. A current C-57 Water Well Drilling Contractor's License is required for the construction of all wells.
- M. Permittee, permittee's contractors, consultants, or agents shall be responsible to assure that all materials or waters generated during drilling, well construction, well development, pump testing, or other activities associated with this permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on- or off-site storm sewers, dry wells, or waterways. Such materials/waters must not be allowed to move off the property where the work is being completed.
- N. The driller and consultants (if applicable) shall have an active copy of their Worker's Compensation Insurance on file with District.
- O. This permit shall expire if not exercised within 180 calendar days of its approval, unless an extension of the permit expiration date is granted by an authorized District representative.
- P. This permit must be kept on site during all activities associated with it and shall immediately be presented to an authorized District representative upon request.

SPECIAL CONDITIONS

Community Projects Review Unit Approval (if needed): _____

CPRU Permit No.: _____

Approved by: _____

Date: _____

Please allow 10 working days to process this application.



Drilling Log

Monitoring Well **28OW-13**

Page: 1 of 1

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816
 Surface Elev.* 21.2 ft. Total Hole Depth 18 ft. bgs North* 1975936.1 East* 6110248.7
 Top of Casing* 20.75 ft. Water Level Initial NA Static ▼ 3.7 ft. Diameter 8 in.
 Screen: Dia 2 in. Length 5 ft. Type/Slot Size Sch 40 PVC/0.010 in.
 Casing: Dia 2 in. Length 13 ft. Type Sch 40 PVC
 Fill Material See Comments Rig/Core BK81
 Drill Co. Woodward Drilling Method Hollow Stem Auger
 Driller Amador Arroyo Log By Michael Glas Well Inst. Date 6/22/10 Permit # 10W00273
 Checked By Timothy Ripp License No. CHG 786

COMMENTS
Annular Seal
Cement Grout 0-9'
Plug
Bentonite Chips 9-11'
Filter Pack
#2/16 Sand 11-18'
Screened Interval
Machine Slotted Sch 40 PVC
13-18'

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0		8" Vault				See log 28OW-14 for lithologic information.
2		Sch 40 PVC 0-11'				
4		Cement grout 0-9'				
6						
8						
10		Bentonite Chips 9-11'				
12		#2/16 Sand 11-18'				
14						
16		0.010" Sch 40 PVC 13-18'				
18		Threaded cap with gasket				
20						

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

*CCS Zone 3, NAD83, NAVD88

File Original with DWR

State of California
Well Completion Report

Refer to Instruction Pamphlet No. ~~XXXXXX~~ 20111086

Page 1 of 1

Owner's Well Number 28OW-14

Date Work Began 06/21/2010

Date Work Ended 6/21/2010

Local Permit Agency Santa Clara Valley Water District

Permit Number 10W00272

Permit Date 6/3/10

DWR Use Only - Do Not Fill In

State Well Number/Site Number			
N		W	
Latitude		Longitude	
APN/TRS/Other			

Geologic Log

Orientation Vertical Horizontal Angle Specify _____
Drilling Method Hollow Stem Auger Drilling Fluid _____

Depth from Surface		Description
Feet	to Feet	
0	0, <u>S</u>	Concrete
0, <u>S</u>	2	Well graded sand - olive brown
2	5	Clay - dark olive gray
5	6, <u>S</u>	Silty sand with gravel - olive gray
6.5	8	Silt - dark olive gray
8	10	No recovery
10	12, <u>S</u>	Silt - dark olive gray
12.5	15	Clay - greenish black
15	16	Silty sand - greenish black
16	17, <u>S</u>	Clay - very dark greenish gray
17.5	20	No recovery
20	22	Silt - very dark greenish gray
22	22, <u>S</u>	Silty sand - greenish black
22.5	23	Clay - very dark greenish gray
23	23, <u>S</u>	Silty sand - greenish black
23.5	24, <u>S</u>	Clay - very dark greenish gray
24.5	25	No recovery
25	27, <u>S</u>	Clay with sand - greenish gray
27.5	28	Clay - dark greenish gray
28	28, <u>S</u>	Silt - olive brown
28.5	30	No recovery
30	32	Poorly graded sand - dark olive brown
Total Depth of Boring <u>32</u> Feet		
Total Depth of Completed Well <u>32</u> Feet		

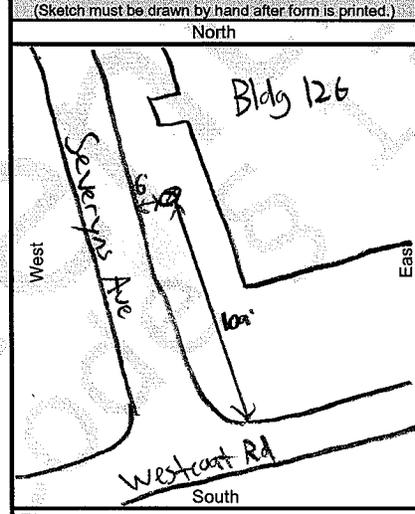
Well Owner

Name U.S. Department of the Navy
Mailing Address 1455 Frazee Road, Suite 900
City San Diego State CA Zip 92108

Well Location

Address Site 28, Former Naval Air Station Moffett Field
City Moffett Field County Santa Clara
Latitude _____ N Longitude _____ W
Datum _____ Decimal Lat. _____ Decimal Long. _____
APN Book _____ Page _____ Parcel _____
Township _____ Range _____ Section _____

Location Sketch



- Activity**
- New Well
 - Modification/Repair
 - Deepen
 - Other _____
 - Destroy
Describe procedures and materials under "GEOLOGIC LOG"

- Planned Uses**
- Water Supply
 - Domestic Public
 - Irrigation Industrial
 - Cathodic Protection
 - Dewatering
 - Heat Exchange
 - Injection
 - Monitoring
 - Remediation
 - Sparging
 - Test Well
 - Vapor Extraction
 - Other _____

Water Level and Yield of Completed Well

Depth to first water _____ (Feet below surface)
Depth to Static _____
Water Level 5.12 (Feet) Date Measured 06/30/2010
Estimated Yield * _____ (GPM) Test Type _____
Test Length _____ (Hours) Total Drawdown _____ (Feet)
*May not be representative of a well's long term yield.

Casings

Depth from Surface	Borehole Diameter	Type	Material	Wall Thickness	Outside Diameter	Screen Type	Slot Size if Any
Feet to Feet	(Inches)			(Inches)	(Inches)		(Inches)
0	22	8	Blank	PVC Sch. 40	0.154	2.375	
22	32	8	Screen	PVC Sch. 40	0.154	2.375	0.010

Annular Material

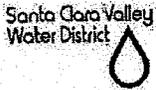
Depth from Surface	Fill	Description
Feet to Feet		
0	17, <u>S</u>	Cement
17, <u>S</u>	20	Bentonite Pellets
20	32	Filter Pack #2/16 sand

Attachments

- Geologic Log
 - Well Construction Diagram
 - Geophysical Log(s)
 - Soil/Water Chemical Analyses
 - Other _____
- Attach additional information, if it exists.

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief
Name Woodward Drilling Co., INC.
Person, Firm or Corporation
550 River Road Rio Vista CA 94571
Address City State Zip
Signed Conroy E. Woodward 7-22-10 710079
C-57 Licensed Water Well Contractor Date Signed C-57 License Number



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San Jose, CA 95118-3686
(408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 158 (05-07-08)
Page 1 of 2

TO BE COMPLETED BY DISTRICT

District Permit No.: <u>10W00272</u>	Date Issued: <u>6/3/10</u>	Well Registration No.:
Geologic Setting: <u>1</u>	Expiration Date: <u>12/3/10</u>	Driller's Log No.: <u>E0111086</u>

TO BE COMPLETED BY OWNER AND DRILLER

Well Owner: US Department of the Navy - BRAC	Property Owner: National Aeronautics & Space Administration	Name of Business at Well Site: National Aeronautics & Space Administration
Well Owner's Mailing Address: 1455 Frazee Road, Suite 900 City, State, Zip San Diego, CA 92108	Property Owner's Mailing Address: NASA Ames Research Center, Building 237, Room 115 City, State, Zip Moffett Field, CA 94035	Address of Well Site: IR Site 28, Former Naval Air Station Moffett Field City, State, Zip Moffett Field, CA 94035
Telephone No. & Contact Name: Valerie Harris (619) 532-0981	Telephone No. & Contact Name: Donald Chuck (650) 604-0237	Telephone No.: None

Owner's/Consultant's Well No.: 280W-14 Assessor's Parcel No. of Well Site: Book 116 Page 18 Parcel 012

Consultant (Company): Shaw Environmental, Inc.	Drilling Company: Woodward Drilling
Address: 4005 Port Chicago Highway City, State, Zip Concord, CA 94520-1120	Address: P.O. Box 336, 550 River Road City, State, Zip Rio Vista, CA 94571
Telephone No.: (925) 288-9898	Telephone No.: (707) 374-4300
<input type="checkbox"/> Check if address or phone number has changed	C-57 License No.: 710079
<input type="checkbox"/> Check if address or phone number has changed	<input type="checkbox"/> Check if address or phone number has changed

THIS SECTION TO BE COMPLETED FOR ALL MONITORING WELLS OR EXTRACTION/RECOVERY WELLS

Case Name/No.:	Caseworker Name: <u>Alana Lee</u>
Oversight Agency: <u>USEPA Region IX</u>	Caseworker Telephone No.: <u>(415) 972-3141</u>
Type of Monitoring Device: <input checked="" type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	<p>(No substitution of signature will be accepted)</p> <p><u>Neil Hey</u> Signature of Responsible Professional</p> <p>Neil Hey Print Name</p> <p>Civil Engineer Registration No. _____ OR PG 8006 Geologist Registration No. _____</p>
Type of Extraction Device: <input type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	
Monitoring Well Use: <input type="checkbox"/> Depth <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Chloride	
Nested/Multi-Level Well: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
NOTE: If Nested/Multi-Level Well is proposed, a separate permit is needed for each casing.	

Estimated Depth of Completed Well: Less than 50 feet 50 to 300 feet Over 300 feet Other: _____

Purpose of Well: Domestic Municipal/Industrial Agricultural Monitoring Cathodic Protection Other: _____

NOTE: Monitoring wells are those constructed for the purpose of obtaining repetitive water level measurements and/or repetitive air samples for analysis.

Well is to be constructed: In a public sidewalk In a public road On public property On private property On District property/easement*

Within 50 feet of the top of a creek bank or District facility

Within 50 feet of sanitary sewer: Yes No Within 50 feet of any existing well: Yes No

Within 100 feet of a pit privy, septic tank, or leachfield: Yes No Within 150 feet of a cesspool or seepage pit: Yes No

*See General Condition F, page 2. Other wells exist on this property? Yes No If yes, status: Active Inactive Abandoned

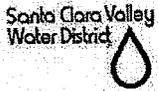
SIGNATURES

I understand and agree that all work associated with this permit is required to be done in accordance with Santa Clara Valley Water District (District) Well Ordinance 90-1, the District Well Standards, and the conditions of this permit (see page 2). I certify that the information given in this permit is correct to the best of my knowledge and that the signature below, whether original, electronic, or photocopied, is authorized and valid, and is affixed with the intent to be enforceable. I also certify that a right of entry/encroachment agreement has been formalized between the well owner and property owner, if parties differ. I also understand that it is my responsibility, as the well owner, to notify the District of any changes in the purpose of this well, from which, is indicated on this application.

Signature of Property Owner/Agent: <u>Donald M. Chuck</u>	Date: <u>5/21/2010</u>	Print Name of Property Owner/Agent: Donald M. Chuck
Signature of Well Owner/Agent: <u>Valerie Harris</u>	Date: <u>5/21/2010</u>	Print Name of Well Owner/Agent: Valerie Harris
Signature of Well Driller/Agent: <u>Wayne Woodward</u>	Date: <u>5/24/2010</u>	Print Name of Driller/Agent: Wayne Woodward
Signature of Consultant/Agent: <u>Neil Hey</u>	Date: <u>5/25/2010</u>	Print Name of Consultant/Agent: Neil Hey

IMPORTANT: A minimum 24-hour notice must be given to Santa Clara Valley Water District Well Inspection Department prior to installing the annular seal. Call (408) 265-2607, ext. 2660. For weekends, holidays, or after-hours, call (408) 265-2607, ext. 2120. Please allow 10 working days to process permit application.

MAY 26 2010



5750 Almaden Expressway
San Jose, CA 95118-3686
(408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 158 (05-07-08)
Page 2 of 2

DISTRICT WELL PERMIT NO.: _____

Based on information on this application and attachment(s) hereto (if any) and subject to approval noted below, permission is hereby granted to construct (drill) the described well. Permission to start work may be withheld until a field check verifies all statements made on application by permittee and is also subject to the "General" and "Special" Conditions stated below.

SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH APPROVAL (Water Supply Well Only)

NOTE: Department of Environmental Health approval must be granted before this application will be accepted by Santa Clara Valley Water District.

Approved by: _____, R.E.H.S.	<input type="checkbox"/> Approved as submitted
	<input type="checkbox"/> Approved as corrected
	Date: _____

SITE PLAN

A 8½" x 11" paper site plan must be attached to this application, including:

1. Location of site features, including major buildings, landscaped areas, tank fields, existing wells, etc.
2. North arrow and scale
3. Location of proposed well with dimensions in feet from well to nearest cross streets.

GENERAL CONDITIONS

- A. District (telephone 408-265-2607, ext. 2660) must be notified a minimum of one working day before construction of the annular seal. An authorized District representative must be on site to witness the construction of the annular seal. This requirement may be waived by an authorized District representative. If the District waives the inspection requirement, the District may request the permittee(s) to furnish certification, under penalty of perjury, that the well was constructed in accordance with the District Well Standards and with the permit conditions.
- B. Permittee agrees to construct, operate, and maintain the well according to provisions of the latest District Ordinance and the latest published revisions of District Well Standards to the end that this well will not cause pollution or contamination of groundwater or otherwise jeopardize the health, safety, or welfare of the people of the District.
- C. This permit is valid only for the purpose specified herein. Well construction methods authorized under this permit may not be changed except by written approval of an authorized District representative, and only if the District believes that such a change will result in equal or superior compliance with the District and State Well Standards (e.g., if the District representative finds that site conditions warrant such a change).
- D. This permit is only valid for the Assessor's Parcel No. indicated on it.
- E. This permit may be voided if it contains incorrect information. If the permit is voided after work has begun, the well or boring that was constructed under this permit must be destroyed in accordance with District and State Well Standards.
- F. If any work associated with this permit will take place on District property/easement, an encroachment or construction permit must be granted by the District's Community Projects Review Unit (telephone 408-265-2607, ext. 2589).
- G. Before the well constructed under this permit can be used as a drinking water source, its use must be approved by the regulatory agency with authority over such use (typically the Santa Clara County Department of Environmental Health or the State of California Department of Public Health). A completed Well Inventory Form must also be approved.
- H. If the well constructed under this permit cannot be or is not being used for its intended purpose, permittee is hereby required to destroy the well according to the District Well Standards and under permit from the District. Any test holes drilled under this permit must be destroyed within 24 hours of completion of testing activities. Destruction activities must be completed according to District standards. District must be notified a minimum of 24 hours prior to destruction.
- I. Within 30 days of the completion of the well construction activities, the driller or consultant identified on this permit shall fully complete State of California DWR Form 188 and mail the original to the District's Wells and Water Production Unit.
- J. The permittee(s) shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend, and hold the District, its officers, agents, and employees, free and harmless from any and all expense, cost, and liability in connection with or resulting from the granting or exercise of this permit including, but not limited to, property damage, personal injury, and wrongful death.
- K. Permittees are required to be in full compliance with Cal/OSHA California Labor Code Section 6300.
- L. A current C-57 Water Well Drilling Contractor's License is required for the construction of all wells.
- M. Permittee, permittee's contractors, consultants, or agents shall be responsible to assure that all materials or waters generated during drilling, well construction, well development, pump testing, or other activities associated with this permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on- or off-site storm sewers, dry wells, or waterways. Such materials/waters must not be allowed to move off the property where the work is being completed.
- N. The driller and consultants (if applicable) shall have an active copy of their Worker's Compensation Insurance on file with District.
- O. This permit shall expire if not exercised within 180 calendar days of its approval, unless an extension of the permit expiration date is granted by an authorized District representative.
- P. This permit must be kept on site during all activities associated with it and shall immediately be presented to an authorized District representative upon request.

SPECIAL CONDITIONS

Community Projects Review Unit Approval (if needed):

CPRU Permit No.:

Approved by: _____

Date: _____

Please allow 10 working days to process this application.



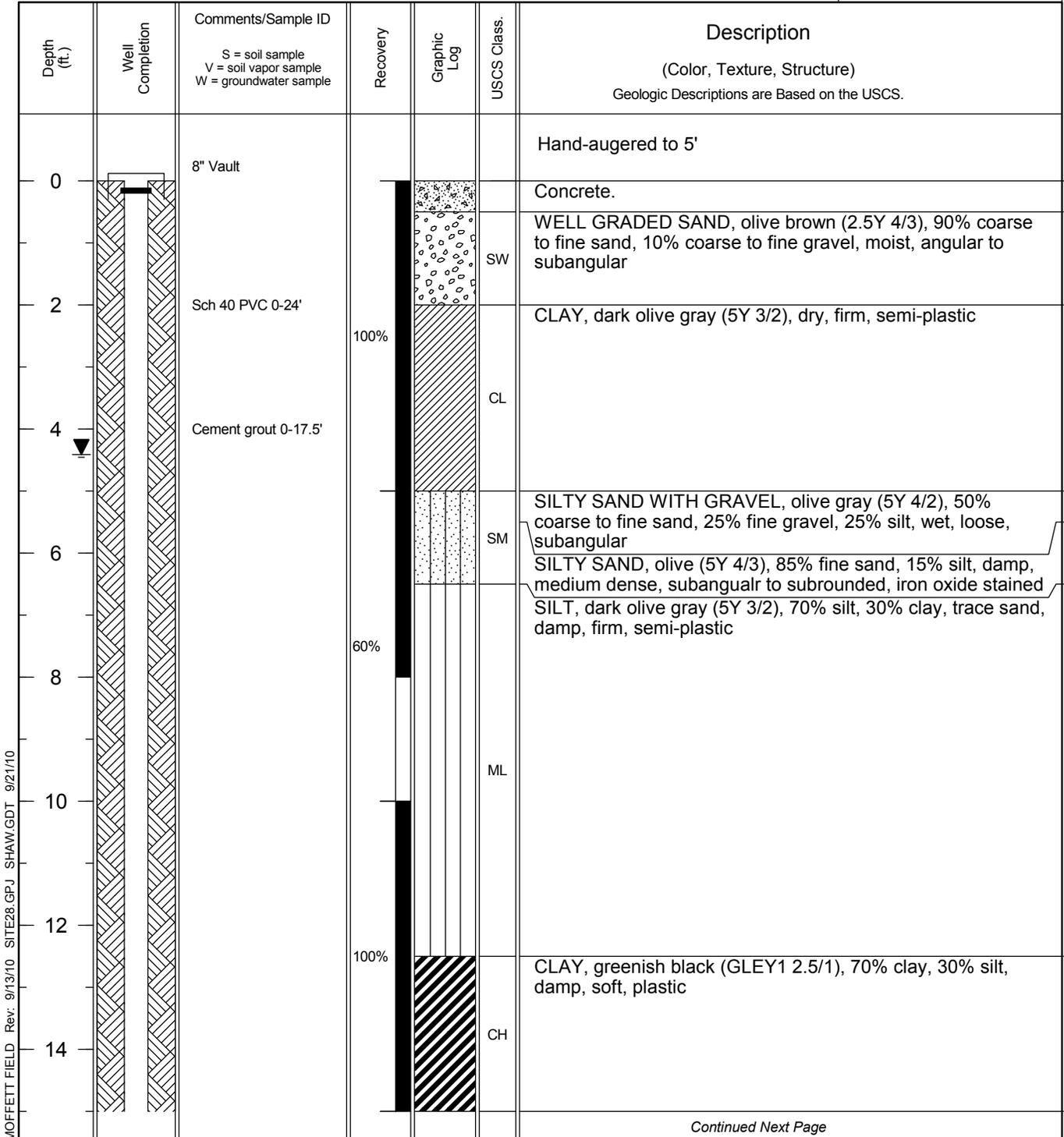
Drilling Log

Monitoring Well **28OW-14**

Page: 1 of 2

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816
 Surface Elev.* 21.1 ft. Total Hole Depth 32 ft. bgs North* 1975936.3 East* 6110245.7
 Top of Casing* 20.67 ft. Water Level Initial NA Static ▼ 4.4 ft. Diameter 8 in.
 Screen: Dia 2 in. Length 10 ft. Type/Slot Size Sch 40 PVC/0.010 in.
 Casing: Dia 2 in. Length 22 ft. Type Sch 40 PVC
 Fill Material See Comments Rig/Core BK81
 Drill Co. Woodward Drilling Method Hollow Stem Auger
 Driller Amador Arroyo Log By Michael Glas Well Inst. Date 6/21/10 Permit # 10W00272
 Checked By Timothy Ripp License No. CHG 786

COMMENTS
Annular Seal
Cement Grout 0-17.5'
Plug
Bentonite Chips 17.5-20'
Filter Pack
#2/16 Sand 20-32'
Screened Interval
Machine Slotted Sch 40 PVC
22-32'



MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

Continued Next Page

*CCS Zone 3, NAD83, NAVD88



Drilling Log

Monitoring Well **28OW-14**

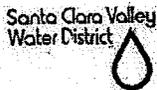
Page: 2 of 2

Project Site IR28 Treatability Study Owner U.S. Navy

Location Former NAS Moffett Field, CA Proj. No. 133816

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
16					SM	SILTY SAND, greenish black (GLE Y1 2.5/1), 60% fine sand, 40% silt, wet, medium dense, rootlets
18			50%		CL	CLAY, very dark greenish gray (GLE Y1 3/1), 60% clay, 40% silt, damp, soft, semi-plastic
20		Bentonite Chips 17.5-20'			ML	SILT, very dark greenish gray (GLE Y1 3/1), 70% silt, 30% clay, wet, soft, semi-plastic
22		#2/16 Sand 20-32'			SM	SILTY SAND, greenish black (GLE Y1 2.5/1), 85% fine sand, 15% silt, wet, medium dense, subangular to subrounded
24			90%		CL	CLAY, very dark greenish gray (GLE Y1 3/1), 60% clay, 40% silt, moist, hard, semi-plastic
24					SM	SILTY SAND, greenish black (GLE Y1 2.5/1), 85% fine sand, 15% silt, wet, medium dense, subangular to subrounded
24					CH	CLAY, very dark greenish gray (GLE Y1 3/1), 70% clay, 30% silt, moist, hard, plastic, iron oxide stained
26					CH	CLAY WITH SAND, greenish gray (GLE Y1 5/1), 85% clay, 15% coarse to fine sand, damp, soft, plastic
28		0.010" Sch 40 PVC 22-32'	70%		CL	CLAY, dark greenish gray (GLE Y1 4/1), 70% clay, 30% silt, damp, soft, semi-plastic, iron oxide stained
28					ML	SILT, olive brown (2.5Y 4/4), 70% silt, 30% clay, damp, firm, non-plastic, iron oxide stained
30					SP	POORLY GRADED SAND, dark olive brown (2.5Y 3/3), medium to fine sand, wet, loose, rounded to subrounded
32		Threaded cap with gasket	100%			
34						Boring terminated at 32 feet.

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10



5750 Almaden Expressway
San Jose, CA 95118-3686
(408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 158 (05-07-08)
Page 1 of 2

TO BE COMPLETED BY DISTRICT

District Permit No.: <u>10W00271</u>	Date Issued: <u>6/3/10</u>	Well Registration No.:
Geologic Setting: <u>1</u>	Expiration Date: <u>12/3/10</u>	Driller's Log No.: <u>E011085</u>

TO BE COMPLETED BY OWNER AND DRILLER

Well Owner: US Department of the Navy - BRAC	Property Owner: National Aeronautics & Space Administration	Name of Business at Well Site: National Aeronautics & Space Administration
Well Owner's Mailing Address: 1455 Frazee Road, Suite 900 City, State, Zip San Diego, CA 92108	Property Owner's Mailing Address: NASA Ames Research Center, Building 237, Room 115 City, State, Zip Moffett Field, CA 94035	Address of Well Site: IR Site 28, Former Naval Air Station Moffett Field City, State, Zip Moffett Field, CA 94035
Telephone No. & Contact Name: Valerie Harris (619) 532-0981	Telephone No. & Contact Name: Donald Chuck (650) 604-0237	Telephone No.: None

Owner's/Consultant's Well No.: <u>28OW-15</u>	Assessor's Parcel No. of Well Site: <u>Book 116 Page 18 Parcel 012</u>	
Consultant (Company): Shaw Environmental, Inc. Address: 4005 Port Chicago Highway City, State, Zip Concord, CA 94520-1120	Drilling Company: Woodward Drilling Address: P.O. Box 336, 550 River Road City, State, Zip Rio Vista, CA 94571	
Telephone No.: (925) 288-9898	Telephone No.: (707) 374-4300	C-57 License No.: 710079
<input type="checkbox"/> Check if address or phone number has changed	<input type="checkbox"/> Check if address or phone number has changed	

THIS SECTION TO BE COMPLETED FOR ALL MONITORING WELLS OR EXTRACTION/RECOVERY WELLS

Case Name/No.:	Caseworker Name: <u>Alana Lee</u>
Oversight Agency: <u>USEPA Region IX</u>	Caseworker Telephone No.: <u>(415) 972-3141</u>
Type of Monitoring Device: <input checked="" type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	<p>(No substitution of signature will be accepted)</p> <p><u>Neil Hey</u> Signature of Responsible Professional</p> <p>Neil Hey Print Name</p> <p>Civil Engineer Registration No. <u>PG 8006</u> OR Geologist Registration No. _____</p>
Type of Extraction Device: <input type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	
Monitoring Well Use: <input type="checkbox"/> Depth <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Chloride	
Nested/Multi-Level Well: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
NOTE: If Nested/Multi-Level Well is proposed, a separate permit is needed for each casing.	

Estimated Depth of Completed Well: <input checked="" type="checkbox"/> Less than 50 feet <input type="checkbox"/> 50 to 300 feet <input type="checkbox"/> Over 300 feet <input type="checkbox"/> Other: _____
Purpose of Well: <input type="checkbox"/> Domestic <input type="checkbox"/> Municipal/Industrial <input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Monitoring <input type="checkbox"/> Cathodic Protection <input type="checkbox"/> Other: _____
NOTE: Monitoring wells are those constructed for the purpose of obtaining repetitive water level measurements and/or repetitive air samples for analysis.
Well is to be constructed: <input type="checkbox"/> In a public sidewalk <input type="checkbox"/> In a public road <input checked="" type="checkbox"/> On public property <input type="checkbox"/> On private property <input type="checkbox"/> On District property/easement* <input type="checkbox"/> Within 50 feet of the top of a creek bank or District facility
Within 50 feet of sanitary sewer: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Within 100 feet of a pit privy, septic tank, or leachfield: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 150 feet of a cesspool or seepage pit: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
*See General Condition F, page 2. Other wells exist on this property? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, status: <input checked="" type="checkbox"/> Active <input type="checkbox"/> Inactive <input type="checkbox"/> Abandoned

SIGNATURES

I understand and agree that all work associated with this permit is required to be done in accordance with Santa Clara Valley Water District (District) Well Ordinance 90-1, the District Well Standards, and the conditions of this permit (see page 2). I certify that the information given in this permit is correct to the best of my knowledge and that the signature below, whether original, electronic, or photocopied, is authorized and valid, and is affixed with the intent to be enforceable. I also certify that a right of entry/encroachment agreement has been formalized between the well owner and property owner, if parties differ. I also understand that it is my responsibility, as the well owner, to notify the District of any changes in the purpose of this well, from which, is indicated on this application.

Signature of Property Owner/Agent: <u>Donald M. Chuck</u>	Date: <u>5/21/2010</u>	Print Name of Property Owner/Agent: Donald M. Chuck
Signature of Well Owner/Agent: <u>Valerie Harris</u>	Date: <u>5/21/2010</u>	Print Name of Well Owner/Agent: Valerie Harris
Signature of Well Driller/Agent: <u>Wayne Woodward</u>	Date: <u>5/24/2010</u>	Print Name of Driller/Agent: Wayne Woodward
Signature of Consultant/Agent: <u>Neil Hey</u>	Date: <u>5/25/2010</u>	Print Name of Consultant/Agent: Neil Hey

IMPORTANT: A minimum 24-hour notice must be given to Santa Clara Valley Water District Well Inspection Department prior to installing the annular seal. Call (408) 265-2607, ext. 2660. For weekends, holidays, or after-hours, call (408) 265-2607, ext. 2120. Please allow 10 working days to process permit application.

MAY 26 2010



WELL CONSTRUCTION APPLICATION

DISTRICT WELL PERMIT NO.: _____

Based on information on this application and attachment(s) hereto (if any) and subject to approval noted below, permission is hereby granted to construct (drill) the described well. Permission to start work may be withheld until a field check verifies all statements made on application by permittee and is also subject to the "General" and "Special" Conditions stated below.

SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH APPROVAL (Water Supply Well Only)

NOTE: Department of Environmental Health approval must be granted before this application will be accepted by Santa Clara Valley Water District.

Approved by: _____, R.E.H.S. Approved as submitted
 Approved as corrected
Date: _____

SITE PLAN

- A 8½" x 11" paper site plan must be attached to this application, including:
1. Location of site features, including major buildings, landscaped areas, tank fields, existing wells, etc.
 2. North arrow and scale
 3. Location of proposed well with dimensions in feet from well to nearest cross streets.

GENERAL CONDITIONS

- A. District (telephone 408-265-2607, ext. 2660) must be notified a minimum of one working day before construction of the annular seal. An authorized District representative must be on site to witness the construction of the annular seal. This requirement may be waived by an authorized District representative. If the District waives the inspection requirement, the District may request the permittee(s) to furnish certification, under penalty of perjury, that the well was constructed in accordance with the District Well Standards and with the permit conditions.
- B. Permittee agrees to construct, operate, and maintain the well according to provisions of the latest District Ordinance and the latest published revisions of District Well Standards to the end that this well will not cause pollution or contamination of groundwater or otherwise jeopardize the health, safety, or welfare of the people of the District.
- C. This permit is valid only for the purpose specified herein. Well construction methods authorized under this permit may not be changed except by written approval of an authorized District representative, and only if the District believes that such a change will result in equal or superior compliance with the District and State Well Standards (e.g., if the District representative finds that site conditions warrant such a change).
- D. This permit is only valid for the Assessor's Parcel No. indicated on it.
- E. This permit may be voided if it contains incorrect information. If the permit is voided after work has begun, the well or boring that was constructed under this permit must be destroyed in accordance with District and State Well Standards.
- F. If any work associated with this permit will take place on District property/easement, an encroachment or construction permit must be granted by the District's Community Projects Review Unit (telephone 408-265-2607, ext. 2589).
- G. Before the well constructed under this permit can be used as a drinking water source, its use must be approved by the regulatory agency with authority over such use (typically the Santa Clara County Department of Environmental Health or the State of California Department of Public Health). A completed Well Inventory Form must also be approved.
- H. If the well constructed under this permit cannot be or is not being used for its intended purpose, permittee is hereby required to destroy the well according to the District Well Standards and under permit from the District. Any test holes drilled under this permit must be destroyed within 24 hours of completion of testing activities. Destruction activities must be completed according to District standards. District must be notified a minimum of 24 hours prior to destruction.
- I. Within 30 days of the completion of the well construction activities, the driller or consultant identified on this permit shall fully complete State of California DWR Form 188 and mail the original to the District's Wells and Water Production Unit.
- J. The permittee(s) shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend, and hold the District, its officers, agents, and employees, free and harmless from any and all expense, cost, and liability in connection with or resulting from the granting or exercise of this permit including, but not limited to, property damage, personal injury, and wrongful death.
- K. Permittees are required to be in full compliance with Cal/OSHA California Labor Code Section 6300.
- L. A current C-57 Water Well Drilling Contractor's License is required for the construction of all wells.
- M. Permittee, permittee's contractors, consultants, or agents shall be responsible to assure that all materials or waters generated during drilling, well construction, well development, pump testing, or other activities associated with this permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on- or off-site storm sewers, dry wells, or waterways. Such materials/waters must not be allowed to move off the property where the work is being completed.
- N. The driller and consultants (if applicable) shall have an active copy of their Worker's Compensation Insurance on file with District.
- O. This permit shall expire if not exercised within 180 calendar days of its approval, unless an extension of the permit expiration date is granted by an authorized District representative.
- P. This permit must be kept on site during all activities associated with it and shall immediately be presented to an authorized District representative upon request.

SPECIAL CONDITIONS

Community Projects Review Unit Approval (if needed): _____ CPRU Permit No.: _____
Approved by: _____ Date: _____

Please allow 10 working days to process this application.



Drilling Log

Monitoring Well **28OW-15**

Page: 1 of 1

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816
 Surface Elev.* 21.1 ft. Total Hole Depth 18 ft. bgs North* 1975911.4 East* 6110246.3
 Top of Casing* 20.88 ft. Water Level Initial NA Static ▼ 4.2 ft. Diameter 8 in.
 Screen: Dia 2 in. Length 5 ft. Type/Slot Size Sch 40 PVC/0.010 in.
 Casing: Dia 2 in. Length 13 ft. Type Sch 40 PVC
 Fill Material See Comments Rig/Core BK81
 Drill Co. Woodward Drilling Method Hollow Stem Auger
 Driller Amador Arroyo Log By Michael Glas Well Inst. Date 6/22/10 Permit # 10W00271
 Checked By Timothy Ripp License No. CHG 786

COMMENTS
Annular Seal
Cement Grout 0-9'
Plug
Bentonite Chips 9-11'
Filter Pack
#2/16 Sand 11-18'
Screened Interval
Machine Slotted Sch 40 PVC
13-18'

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0		8" Vault				See log 28OW-16 for lithologic information.
2		Sch 40 PVC 0-11'				
4		Cement grout 0-9'				
6						
8						
10		Bentonite Chips 9-11'				
12		#2/16 Sand 11-18'				
14						
16		0.010" Sch 40 PVC 13-18'				
18		Threaded cap with gasket				
20						

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

*CCS Zone 3, NAD83, NAVD88

*The free Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a saved form.

File Original with DWR

State of California

Well Completion Report

Refer to Instruction Pamphlet

No. ~~XXXXXX~~ - 2011084

Page 1 of 1

Owner's Well Number 28OW-16

Date Work Began 06/21/2010

Date Work Ended 6/21/2010

Local Permit Agency Santa Clara Valley Water District

Permit Number 10W00270

Permit Date 6/3/10

DWR Use Only - Do Not Fill In

State Well Number/Site Number

Latitude

Longitude

APN/TRS/Other

Geologic Log

Orientation Vertical Horizontal Angle Specify _____

Drilling Method Hollow Stem Auger

Drilling Fluid _____

Depth from Surface

Description

Feet to Feet

Describe material, grain size, color, etc

0	0.25	Asphalt
0.25	1.5	Well graded sand with gravel - dark olive brown
1.5	5	Clay - olive gray
5	6	Silty sand - olive brown
6	6.5	Silty sand - olive gray
6.5	7.5	Clay - dark gray
7.5	8	Silty sand - olive
8	10	No recovery
10	11	Clay - olive gray
11	11.5	Sandy clay - olive gray
11.5	13	Silt - dark greenish gray
13	15	No recovery
15	18	Clay - very dark greenish gray
18	18.5	Clay with sand - greenish black
18.5	23.5	Clay - very dark greenish gray
23.5	24.5	Silty sand - greenish black
24.5	25	Clay - very dark greenish gray
25	28	Clay - dark gray
28	28.5	Silty sand - olive brown
28.5	29	Clay - olive brown
29	30	No recovery
30	32	Clay - brown

Total Depth of Boring 32 Feet

Total Depth of Completed Well 32 Feet

Well Owner

Name U.S. Department of the Navy

Mailing Address 1455 Frazee Road, Suite 900

City San Diego State CA Zip 92108

Well Location

Address Site 28, Former Naval Air Station Moffett Field

City Moffett Field County Santa Clara

Latitude _____ N Longitude _____ W
 Dec. Min. Sec. Dec. Min. Sec.

Datum _____ Decimal Lat. _____ Decimal Long. _____

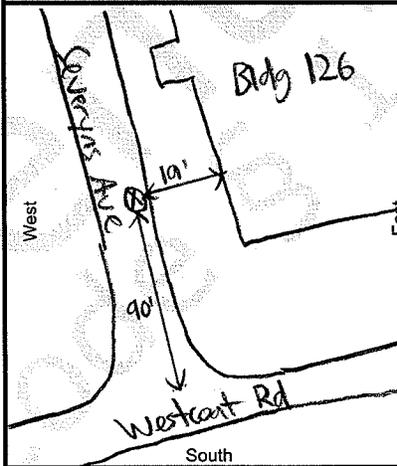
APN Book _____ Page _____ Parcel _____

Township _____ Range _____ Section _____

Location Sketch

(Sketch must be drawn by hand after form is printed.)

North



Illustrate or describe distance of well from roads, buildings, fences, rivers, etc. and attach a map. Use additional paper if necessary. Please be accurate and complete.

Activity

- New Well
- Modification/Repair
 - Deepen
 - Other _____
- Destroy

Describe procedures and materials under "GEOLOGIC LOG"

Planned Uses

- Water Supply
 - Domestic Public
 - Irrigation Industrial
- Cathodic Protection
- Dewatering
- Heat Exchange
- Injection
- Monitoring
- Remediation
- Sparging
- Test Well
- Vapor Extraction
- Other _____

Water Level and Yield of Completed Well

Depth to first water _____ (Feet below surface)

Depth to Static _____

Water Level 5.35 (Feet) Date Measured 06/28/2010

Estimated Yield * _____ (GPM) Test Type _____

Test Length _____ (Hours) Total Drawdown _____ (Feet)

*May not be representative of a well's long term yield.

Casings

Depth from Surface Feet to Feet	Borehole Diameter (Inches)	Type	Material	Wall Thickness (Inches)	Outside Diameter (Inches)	Screen Type	Slot Size if Any (Inches)
0	22	Blank	PVC Sch. 40	0.154	2.375		
22	32	Screen	PVC Sch. 40	0.154	2.375	Slots	0.010

Annular Material

Depth from Surface Feet to Feet	Fill	Description
0	17.5	Cement
17.5	20	Bentonite Pellets
20	32	Filter Pack #2/16 sand

Attachments

- Geologic Log
- Well Construction Diagram
- Geophysical Log(s)
- Soil/Water Chemical Analyses
- Other _____

Attach additional information, if it exists.

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief
 Name Woodward Drilling Co., INC.

Person, Firm or Corporation

550 River Road

Address

Rio Vista

City

CA 94571

State

Zip

Signed Clemmie E. Woodward

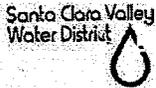
C-57 Licensed Water Well Contractor

7-22-10

Date Signed

740079

C-57 License Number



5750 Almaden Expressway
San Jose, CA 95118-3686
(408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 158 (05-07-08)
Page 1 of 2

TO BE COMPLETED BY DISTRICT

District Permit No.: <u>10W00270</u>	Date Issued: <u>6/3/10</u>	Well Registration No.:
Geologic Setting: <u>1</u>	Expiration Date: <u>12/3/10</u>	Driller's Log No.: <u>ED111084</u>

TO BE COMPLETED BY OWNER AND DRILLER

Well Owner: US Department of the Navy - BRAC	Property Owner: National Aeronautics & Space Administration	Name of Business at Well Site: National Aeronautics & Space Administration
Well Owner's Mailing Address: 1455 Frazee Road, Suite 900 City, State, Zip San Diego, CA 92108	Property Owner's Mailing Address: NASA Ames Research Center, Building 237, Room 115 City, State, Zip Moffett Field, CA 94035	Address of Well Site: IR Site 28, Former Naval Air Station Moffett Field City, State, Zip Moffett Field, CA 94035
Telephone No. & Contact Name: Valerie Harris (619) 532-0981	Telephone No. & Contact Name: Donald Chuck (650) 604-0237	Telephone No.: None

Owner's/Consultant's Well No.: 280W-16 Assessor's Parcel No. of Well Site: Book 116 Page 18 Parcel 012

Consultant (Company): Shaw Environmental, Inc.	Drilling Company: Woodward Drilling
Address: 4005 Port Chicago Highway City, State, Zip Concord, CA 94520-1120	Address: P.O. Box 336, 550 River Road City, State, Zip Rio Vista, CA 94571
Telephone No.: (925) 288-9898	Telephone No.: (707) 374-4300
<input type="checkbox"/> Check if address or phone number has changed	C-57 License No.: 710079
<input type="checkbox"/> Check if address or phone number has changed	<input type="checkbox"/> Check if address or phone number has changed

THIS SECTION TO BE COMPLETED FOR ALL MONITORING WELLS OR EXTRACTION/RECOVERY WELLS

Case Name/No.:	Caseworker Name: <u>Alana Lee</u>
Oversight Agency: <u>USEPA Region IX</u>	Caseworker Telephone No.: <u>(415) 972-3141</u>
Type of Monitoring Device: <input checked="" type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	<p>(No substitution of signature will be accepted)</p> <p><u>Neil Hey</u> Signature of Responsible Professional</p> <p>Neil Hey Print Name</p> <p>Civil Engineer Registration No. _____ OR PG 8006 Geologist Registration No. _____</p>
Type of Extraction Device: <input type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	
Monitoring Well Use: <input type="checkbox"/> Depth <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Chloride	
Nested/Multi-Level Well: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
NOTE: If Nested/Multi-Level Well is proposed, a separate permit is needed for each casing.	

Estimated Depth of Completed Well: Less than 50 feet 50 to 300 feet Over 300 feet Other: _____

Purpose of Well: Domestic Municipal/Industrial Agricultural Monitoring Cathodic Protection Other: _____

NOTE: Monitoring wells are those constructed for the purpose of obtaining repetitive water level measurements and/or repetitive air samples for analysis.

Well is to be constructed: In a public sidewalk In a public road On public property On private property On District property/easement*

Within 50 feet of the top of a creek bank or District facility

Within 50 feet of sanitary sewer: Yes No Within 50 feet of any existing well: Yes No

Within 100 feet of a pit privy, septic tank, or leachfield: Yes No Within 150 feet of a cesspool or seepage pit: Yes No

*See General Condition F, page 2. Other wells exist on this property? Yes No If yes, status: Active Inactive Abandoned

SIGNATURES

I understand and agree that all work associated with this permit is required to be done in accordance with Santa Clara Valley Water District (District) Well Ordinance 90-1, the District Well Standards, and the conditions of this permit (see page 2). I certify that the information given in this permit is correct to the best of my knowledge and that the signature below, whether original, electronic, or photocopied, is authorized and valid, and is affixed with the intent to be enforceable. I also certify that a right of entry/encroachment agreement has been formalized between the well owner and property owner, if parties differ. I also understand that it is my responsibility, as the well owner, to notify the District of any changes in the purpose of this well, from which, is indicated on this application.

Signature of Property Owner/Agent: <u>Donald M. Chuck</u>	Date: <u>5/21/2010</u>	Print Name of Property Owner/Agent: Donald M. Chuck
Signature of Well Owner/Agent: <u>Valerie Harris</u>	Date: <u>5/21/2010</u>	Print Name of Well Owner/Agent: Valerie Harris
Signature of Well Driller/Agent: <u>Wayne Woodward</u>	Date: <u>5/24/2010</u>	Print Name of Driller/Agent: Wayne Woodward
Signature of Consultant/Agent: <u>Neil Hey</u>	Date: <u>5/25/2010</u>	Print Name of Consultant/Agent: Neil Hey

IMPORTANT: A minimum 24-hour notice must be given to Santa Clara Valley Water District Well Inspection Department prior to installing the annular seal. Call (408) 265-2607, ext. 2660. For weekends, holidays, or after-hours, call (408) 265-2607, ext. 2120. Please allow 10 working days to process permit application.

MAY 26 2010



5750 Almaden Expressway
San Jose, CA 95118-3686
(408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 158 (05-07-08)
Page 2 of 2

DISTRICT WELL PERMIT NO.: _____

Based on information on this application and attachment(s) hereto (if any) and subject to approval noted below, permission is hereby granted to construct (drill) the described well. Permission to start work may be withheld until a field check verifies all statements made on application by permittee and is also subject to the "General" and "Special" Conditions stated below.

SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH APPROVAL (Water Supply Well Only)

NOTE: Department of Environmental Health approval must be granted before this application will be accepted by Santa Clara Valley Water District.

Approved by:

, R.E.H.S

- Approved as submitted
- Approved as corrected

Date: _____

SITE PLAN

A 8½" x 11" paper site plan must be attached to this application, including:

1. Location of site features, including major buildings, landscaped areas, tank fields, existing wells, etc.
2. North arrow and scale.
3. Location of proposed well with dimensions in feet from well to nearest cross streets.

GENERAL CONDITIONS

- A. District (telephone 408-265-2607, ext. 2660) must be notified a minimum of one working day before construction of the annular seal. An authorized District representative must be on site to witness the construction of the annular seal. This requirement may be waived by an authorized District representative. If the District waives the inspection requirement, the District may request the permittee(s) to furnish certification, under penalty of perjury, that the well was constructed in accordance with the District Well Standards and with the permit conditions.
- B. Permittee agrees to construct, operate, and maintain the well according to provisions of the latest District Ordinance and the latest published revisions of District Well Standards to the end that this well will not cause pollution or contamination of groundwater or otherwise jeopardize the health, safety, or welfare of the people of the District.
- C. This permit is valid only for the purpose specified herein. Well construction methods authorized under this permit may not be changed except by written approval of an authorized District representative, and only if the District believes that such a change will result in equal or superior compliance with the District and State Well Standards (e.g., if the District representative finds that site conditions warrant such a change).
- D. This permit is only valid for the Assessor's Parcel No. indicated on it.
- E. This permit may be voided if it contains incorrect information. If the permit is voided after work has begun, the well or boring that was constructed under this permit must be destroyed in accordance with District and State Well Standards.
- F. If any work associated with this permit will take place on District property/easement, an encroachment or construction permit must be granted by the District's Community Projects Review Unit (telephone 408-265-2607, ext. 2589).
- G. Before the well constructed under this permit can be used as a drinking water source, its use must be approved by the regulatory agency with authority over such use (typically the Santa Clara County Department of Environmental Health or the State of California Department of Public Health). A completed Well Inventory Form must also be approved.
- H. If the well constructed under this permit cannot be or is not being used for its intended purpose, permittee is hereby required to destroy the well according to the District Well Standards and under permit from the District. Any test holes drilled under this permit must be destroyed within 24 hours of completion of testing activities. Destruction activities must be completed according to District standards. District must be notified a minimum of 24 hours prior to destruction.
- I. Within 30 days of the completion of the well construction activities, the driller or consultant identified on this permit shall fully complete State of California DWR Form 188 and mail the original to the District's Wells and Water Production Unit.
- J. The permittee(s) shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend, and hold the District, its officers, agents, and employees, free and harmless from any and all expense, cost, and liability in connection with or resulting from the granting or exercise of this permit including, but not limited to, property damage, personal injury, and wrongful death.
- K. Permittees are required to be in full compliance with Cal/OSHA California Labor Code Section 6300.
- L. A current C-57 Water Well Drilling Contractor's License is required for the construction of all wells.
- M. Permittee, permittee's contractors, consultants, or agents shall be responsible to assure that all materials or waters generated during drilling, well construction, well development, pump testing, or other activities associated with this permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on- or off-site storm sewers, dry wells, or waterways. Such materials/waters must not be allowed to move off the property where the work is being completed.
- N. The driller and consultants (if applicable) shall have an active copy of their Worker's Compensation Insurance on file with District.
- O. This permit shall expire if not exercised within 180 calendar days of its approval, unless an extension of the permit expiration date is granted by an authorized District representative.
- P. This permit must be kept on site during all activities associated with it and shall immediately be presented to an authorized District representative upon request.

SPECIAL CONDITIONS

Community Projects Review Unit Approval (if needed): _____

CPRU Permit No.: _____

Approved by: _____

Date: _____

Please allow 10 working days to process this application.



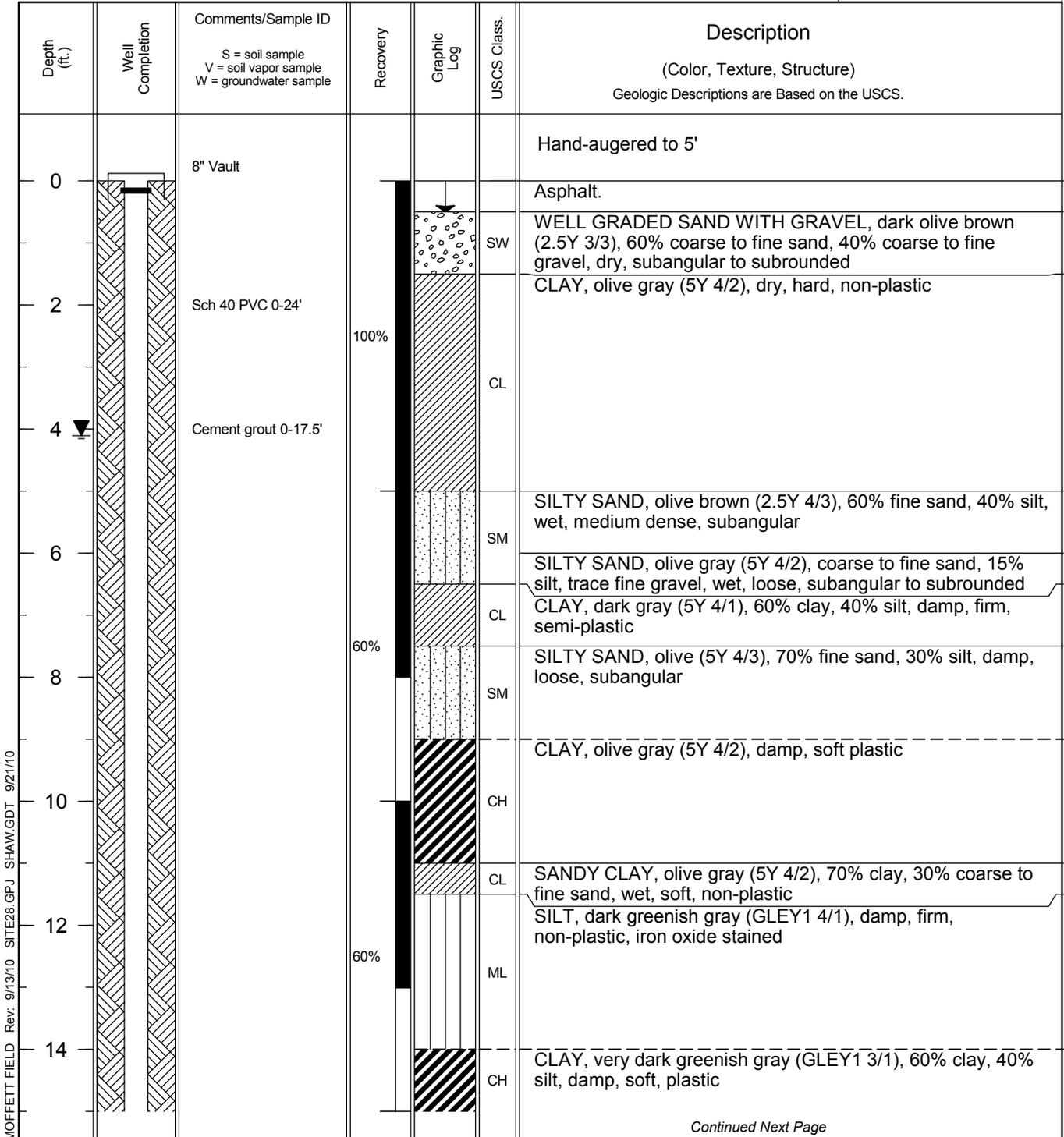
Drilling Log

Monitoring Well **28OW-16**

Page: 1 of 2

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816
 Surface Elev.* 21.2 ft. Total Hole Depth 32 ft. bgs North* 1975912.7 East* 6110243.9
 Top of Casing* 20.82 ft. Water Level Initial NA Static ▼ 4.1 ft. Diameter 8 in.
 Screen: Dia 2 in. Length 10 ft. Type/Slot Size Sch 40 PVC/0.010 in.
 Casing: Dia 2 in. Length 22 ft. Type Sch 40 PVC
 Fill Material See Comments Rig/Core BK81
 Drill Co. Woodward Drilling Method Hollow Stem Auger
 Driller Amador Arroyo Log By Michael Glas Well Inst. Date 6/21/10 Permit # 10W00270
 Checked By Timothy Ripp License No. CHG 786

COMMENTS
Annular Seal
Cement Grout 0-17.5'
Plug
Bentonite Chips 17.5-20'
Filter Pack
#2/16 Sand 20-32'
Screened Interval
Machine Slotted Sch 40 PVC
22-32'



MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

Continued Next Page

*CCS Zone 3, NAD83, NAVD88



Drilling Log

Monitoring Well **28OW-16**

Page: 2 of 2

Project Site IR28 Treatability Study Owner U.S. Navy

Location Former NAS Moffett Field, CA Proj. No. 133816

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
16					CH	100% clay.
18		Bentonite Chips 17.5-20'	100%		CL	CLAY WITH SAND, greenish black (GLE Y1 2.5/1), 85% clay, 15% coarse to fine sand, moist, firm, semi-plastic
20		#2/16 Sand 20-32'			CH	CLAY, very dark greenish gray (GLE Y1 3/1), 60% clay, 40% silt, damp, soft, plastic
22			100%		CL	CLAY, very dark greenish gray (GLE Y1 3/1), 70% clay, 30% silt, wet, soft, non-plastic
24					SM	SILTY SAND, greenish black (GLE Y1 2.5/1), 85% coarse to fine sand, 15% silt, trace fine gravel, damp, loose, subangular to subrounded
26		0.010" Sch 40 PVC 22-32'	80%		CL	CLAY, very dark greenish gray (GLE Y1 3/1), moist, hard, semi-plastic CLAY, dark gray (5Y 4/1), moist, firm, semi-plastic Iron oxide stained.
28					SM	SILTY SAND, olive brown (2.5Y 4/3), 85% medium to fine sand, 15% silt, trace coarse sand, wet, loose, rounded to subrounded
30			100%		CH	CLAY, olive brown (2.5Y 4/4), 60% clay, 40% silt, moist, hard, plastic CLAY, brown (10YR 4/3), moist, firm, plastic
32		Threaded cap with gasket				Boring terminated at 32 feet.
34						

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

*The free Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a saved form.

File Original with DWR

State of California

Well Completion Report

Refer to Instruction Pamphlet

No. ~~XXXXXX~~ 20111083

Page 1 of 1

Owner's Well Number 28OW-17

Date Work Began 06/22/2010

Date Work Ended 6/22/2010

Local Permit Agency Santa Clara Valley Water District

Permit Number 10W00269

Permit Date 6/3/10

DWR Use Only - Do Not Fill In

State Well Number/Site Number	
Latitude	Longitude
APN/TRS/Other	

Geologic Log

Orientation Vertical Horizontal Angle Specify _____

Drilling Method Hollow Stem Auger

Drilling Fluid _____

Depth from Surface

Description

Feet to Feet Describe material, grain size, color, etc.

0	0.25	Asphalt
0.25	1	Well graded sand with gravel - olive brown
1	5	Clay - olive gray
5	6	Silty sand with gravel - olive
6	7	Poorly graded sand - olive gray
7	7.5	Clay - dark olive gray
7.5	10	No recovery
10	10.5	Silt - greenish black
10.5	11	Clay - very dark greenish gray
11	14	Silt - very dark greenish gray
14	15	Clay - greenish black
15	15.5	Silt - greenish black
15.5	16.5	Silty sand - greenish black
16.5	17	Silt - very dark greenish gray
17	18	Clay with sand - very dark greenish gray

Total Depth of Boring 18 Feet

Total Depth of Completed Well 18 Feet

Well Owner

Name U.S. Department of the Navy

Mailing Address 1455 Frazee Road, Suite 900

City San Diego State CA Zip 92108

Well Location

Address Site 28, Former Naval Air Station Moffett Field

City Moffett Field County Santa Clara

Latitude _____ N Longitude _____ W
 Deg. Min. Sec. Deg. Min. Sec.

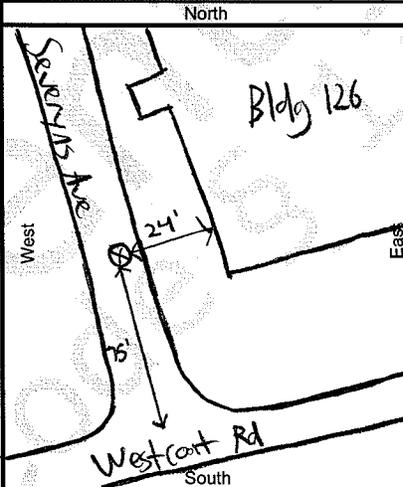
Datum _____ Decimal Lat. _____ Decimal Long. _____

APN Book _____ Page _____ Parcel _____

Township _____ Range _____ Section _____

Location Sketch

(Sketch must be drawn by hand after form is printed.)



Illustrate or describe distance of well from roads, buildings, fences, rivers, etc. and attach a map. Use additional paper if necessary. Please be accurate and complete.

Activity

- New Well
 - Modification/Repair
 - Deepen
 - Other _____
 - Destroy
- Describe procedures and materials under "GEOLOGIC LOG"

Planned Uses

- Water Supply
 - Domestic Public
 - Irrigation Industrial
- Cathodic Protection
- Dewatering
- Heat Exchange
- Injection
- Monitoring
- Remediation
- Sparging
- Test Well
- Vapor Extraction
- Other _____

Water Level and Yield of Completed Well

Depth to first water _____ (Feet below surface)

Depth to Static _____

Water Level 6.12 (Feet) Date Measured 06/28/2010

Estimated Yield * _____ (GPM) Test Type _____

Test Length _____ (Hours) Total Drawdown _____ (Feet)

*May not be representative of a well's long term yield.

Casings

Depth from Surface Feet to Feet	Borehole Diameter (Inches)	Type	Material	Wall Thickness (Inches)	Outside Diameter (Inches)	Screen Type	Slot Size if Any (Inches)
0	13	Blank	PVC Sch. 40	0.154	2.375		
13	18	Screen	PVC Sch. 40	0.154	2.375	Slots	0.010

Annular Material

Depth from Surface Feet to Feet	Fill	Description
0	9	Cement
9	11	Bentonite Pellets
11	18	Filter Pack #2/16 sand

Attachments

- Geologic Log
- Well Construction Diagram
- Geophysical Log(s)
- Soil/Water Chemical Analyses
- Other _____

Attach additional information, if it exists.

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name Woodward Drilling Co., INC.

Person, Firm or Corporation

550 River Road

Rio Vista

CA 94571

Address

City

State

Zip

Signed Conning E Woodward

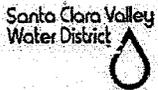
2-22-10

710079

C-57 Licensed Water Well Contractor

Date Signed

C-57 License Number



5750 Almaden Expressway
San Jose, CA 95118-3686
(408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 156 (05-07-08)
Page 1 of 2

TO BE COMPLETED BY DISTRICT		
District Permit No.: 10W00269	Date Issued: 6/3/10	Well Registration No.:
Geologic Setting: 1	Expiration Date: 12/3/10	Driller's Log No.: E011083

TO BE COMPLETED BY OWNER AND DRILLER		
Well Owner: US Department of the Navy - BRAC	Property Owner: National Aeronautics & Space Administration	Name of Business at Well Site: National Aeronautics & Space Administration
Well Owner's Mailing Address: 1455 Frazee Road, Suite 900 City, State, Zip San Diego, CA 92108	Property Owner's Mailing Address: NASA Ames Research Center, Building 237, Room 115 City, State, Zip Moffett Field, CA 94035	Address of Well Site: IR Site 28, Former Naval Air Station Moffett Field City, State, Zip Moffett Field, CA 94035
Telephone No. & Contact Name: Valerie Harris (619) 532-0981	Telephone No. & Contact Name: Donald Chuck (650) 604-0237	Telephone No.: None

Owner's/Consultant's Well No.: 28OW-17	Assessor's Parcel No. of Well Site: Book 116 Page 18 Parcel 012
Consultant (Company): Shaw Environmental, Inc. Address: 4005 Port Chicago Highway City, State, Zip Concord, CA 94520-1120 Telephone No.: (925) 288-9898	Drilling Company: Woodward Drilling Address: P.O. Box 336, 550 River Road City, State, Zip Rio Vista, CA 94571 Telephone No.: (707) 374-4300 C-57 License No.: 710079
<input type="checkbox"/> Check if address or phone number has changed	<input type="checkbox"/> Check if address or phone number has changed

THIS SECTION TO BE COMPLETED FOR ALL MONITORING WELLS OR EXTRACTION/RECOVERY WELLS	
Case Name/No.:	Caseworker Name: Alana Lee
Oversight Agency: USEPA Region IX	Caseworker Telephone No.: (415) 972-3141
Type of Monitoring Device: <input checked="" type="checkbox"/> Groundwater <input type="checkbox"/> Vadose Type of Extraction Device: <input type="checkbox"/> Groundwater <input type="checkbox"/> Vadose Monitoring Well Use: <input type="checkbox"/> Depth <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Chloride Nested/Multi-Level Well: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Signature of Responsible Professional: <i>Neil Hey</i> Neil Hey Print Name Civil Engineer Registration No. OR PG 8006 Geologist Registration No.
NOTE: If Nested/Multi-Level Well is proposed, a separate permit is needed for each casing.	

Estimated Depth of Completed Well: <input checked="" type="checkbox"/> Less than 50 feet <input type="checkbox"/> 50 to 300 feet <input type="checkbox"/> Over 300 feet <input type="checkbox"/> Other: _____
Purpose of Well: <input type="checkbox"/> Domestic <input type="checkbox"/> Municipal/Industrial <input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Monitoring <input type="checkbox"/> Cathodic Protection <input type="checkbox"/> Other: _____
NOTE: Monitoring wells are those constructed for the purpose of obtaining repetitive water level measurements and/or repetitive air samples for analysis.
Well is to be constructed: <input type="checkbox"/> In a public sidewalk <input type="checkbox"/> In a public road <input checked="" type="checkbox"/> On public property <input type="checkbox"/> On private property <input type="checkbox"/> On District property/easement* <input type="checkbox"/> Within 50 feet of the top of a creek bank or District facility
Within 50 feet of sanitary sewer: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Within 50 feet of any existing well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Within 100 feet of a pit privy, septic tank, or leachfield: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Within 150 feet of a cesspool or seepage pit: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
*See General Condition F, page 2. Other wells exist on this property? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, status: <input checked="" type="checkbox"/> Active <input type="checkbox"/> Inactive <input type="checkbox"/> Abandoned

SIGNATURES		
I understand and agree that all work associated with this permit is required to be done in accordance with Santa Clara Valley Water District (District) Well Ordinance 90-1, the District Well Standards, and the conditions of this permit (see page 2). I certify that the information given in this permit is correct to the best of my knowledge and that the signature below, whether original, electronic, or photocopied, is authorized and valid, and is affixed with the intent to be enforceable. I also certify that a right of entry/encroachment agreement has been formalized between the well owner and property owner, if parties differ. I also understand that it is my responsibility, as the well owner, to notify the District of any changes in the purpose of this well, from which, is indicated on this application.		
Signature of Property Owner/Agent: <i>Donald M. Chuck</i>	Date: 5/21/2010	Print Name of Property Owner/Agent: Donald M. Chuck
Signature of Well Owner/Agent: <i>Valerie Harris</i>	Date: 5/21/2010	Print Name of Well Owner/Agent: Valerie Harris
Signature of Well Driller/Agent: <i>Wayne Woodward</i>	Date: 5/24/2010	Print Name of Driller/Agent: Wayne Woodward
Signature of Consultant/Agent: <i>Neil Hey</i>	Date: 5/25/2010	Print Name of Consultant/Agent: Neil Hey

IMPORTANT: A minimum 24-hour notice must be given to Santa Clara Valley Water District Well Inspection Department prior to installing the annular seal. Call (408) 265-2607, ext. 2660. For weekends, holidays, or after-hours, call (408) 265-2607, ext. 2120. Please allow 10 working days to process permit application.

MAY 26 2010



5750 Almaden Expressway
San Jose, CA 95118-3686
(408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 158 (05-07-08)
Page 2 of 2

DISTRICT WELL PERMIT NO.: _____

Based on information on this application and attachment(s) hereto (if any) and subject to approval noted below, permission is hereby granted to construct (drill) the described well. Permission to start work may be withheld until a field check verifies all statements made on application by permittee and is also subject to the "General" and "Special" Conditions stated below.

SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH APPROVAL (Water Supply Well Only)

NOTE: Department of Environmental Health approval must be granted before this application will be accepted by Santa Clara Valley Water District.

Approved by:

R.E.H.S

- Approved as submitted
- Approved as corrected

Date:

SITE PLAN

A 8½" x 11" paper site plan must be attached to this application, including:

1. Location of site features, including major buildings, landscaped areas, tank fields, existing wells, etc.
2. North arrow and scale
3. Location of proposed well with dimensions in feet from well to nearest cross streets.

GENERAL CONDITIONS

- A. District (telephone 408-265-2607, ext. 2660) must be notified a minimum of one working day before construction of the annular seal. An authorized District representative must be on site to witness the construction of the annular seal. This requirement may be waived by an authorized District representative. If the District waives the inspection requirement, the District may request the permittee(s) to furnish certification, under penalty of perjury, that the well was constructed in accordance with the District Well Standards and with the permit conditions.
- B. Permittee agrees to construct, operate, and maintain the well according to provisions of the latest District Ordinance and the latest published revisions of District Well Standards to the end that this well will not cause pollution or contamination of groundwater or otherwise jeopardize the health, safety, or welfare of the people of the District.
- C. This permit is valid only for the purpose specified herein. Well construction methods authorized under this permit may not be changed except by written approval of an authorized District representative, and only if the District believes that such a change will result in equal or superior compliance with the District and State Well Standards (e.g., if the District representative finds that site conditions warrant such a change).
- D. This permit is only valid for the Assessor's Parcel No. indicated on it.
- E. This permit may be voided if it contains incorrect information. If the permit is voided after work has begun, the well or boring that was constructed under this permit must be destroyed in accordance with District and State Well Standards.
- F. If any work associated with this permit will take place on District property/easement, an encroachment or construction permit must be granted by the District's Community Projects Review Unit (telephone 408-265-2607, ext. 2589).
- G. Before the well constructed under this permit can be used as a drinking water source, its use must be approved by the regulatory agency with authority over such use (typically the Santa Clara County Department of Environmental Health or the State of California Department of Public Health). A completed Well Inventory Form must also be approved.
- H. If the well constructed under this permit cannot be or is not being used for its intended purpose, permittee is hereby required to destroy the well according to the District Well Standards and under permit from the District. Any test holes drilled under this permit must be destroyed within 24 hours of completion of testing activities. Destruction activities must be completed according to District standards. District must be notified a minimum of 24 hours prior to destruction.
- I. Within 30 days of the completion of the well construction activities, the driller or consultant identified on this permit shall fully complete State of California DWR Form 188 and mail the original to the District's Wells and Water Production Unit.
- J. The permittee(s) shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend, and hold the District, its officers, agents, and employees, free and harmless from any and all expense, cost, and liability in connection with or resulting from the granting or exercise of this permit including, but not limited to, property damage, personal injury, and wrongful death.
- K. Permittees are required to be in full compliance with Cal/OSHA California Labor Code Section 6300.
- L. A current C-57 Water Well Drilling Contractor's License is required for the construction of all wells.
- M. Permittee, permittee's contractors, consultants, or agents shall be responsible to assure that all materials or waters generated during drilling, well construction, well development, pump testing, or other activities associated with this permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on- or off-site storm sewers, dry wells, or waterways. Such materials/waters must not be allowed to move off the property where the work is being completed.
- N. The driller and consultants (if applicable) shall have an active copy of their Worker's Compensation Insurance on file with District.
- O. This permit shall expire if not exercised within 180 calendar days of its approval, unless an extension of the permit expiration date is granted by an authorized District representative.
- P. This permit must be kept on site during all activities associated with it and shall immediately be presented to an authorized District representative upon request.

SPECIAL CONDITIONS

Community Projects Review Unit Approval (if needed):

CPRU Permit No.:

Approved by:

Date:

Please allow 10 working days to process this application.



Drilling Log

Monitoring Well **28OW-17**

Page: 1 of 1

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816
 Surface Elev.* 21.3 ft. Total Hole Depth 18 ft. bgs North* 1975893.8 East* 6110250.4
 Top of Casing* 21.09 ft. Water Level Initial NA Static ▼ 3.1 ft. Diameter 8 in.
 Screen: Dia 2 in. Length 5 ft. Type/Slot Size Sch 40 PVC/0.010 in.
 Casing: Dia 2 in. Length 13 ft. Type Sch 40 PVC
 Fill Material See Comments Rig/Core BK81
 Drill Co. Woodward Drilling Method Hollow Stem Auger
 Driller Amador Arroyo Log By Michael Glas Well Inst. Date 6/22/10 Permit # 10W00269
 Checked By Timothy Ripp License No. CHG 786

COMMENTS
Annular Seal
Cement Grout 0-9'
Plug
Bentonite Chips 9-11'
Filter Pack
#2/16 Sand 11-18'
Screened Interval
Machine Slotted Sch 40 PVC
13-18'

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0		8" Vault				See log 28OW-18 for lithologic information.
2		Sch 40 PVC 0-11'				
4		Cement grout 0-9'				
6						
8						
10		Bentonite Chips 9-11'				
12		#2/16 Sand 11-18'				
14						
16		0.010" Sch 40 PVC 13-18'				
18		Threaded cap with gasket				
20						

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

*CCS Zone 3, NAD83, NAVD88

File Original with DWR

State of California

Well Completion Report

Refer to Instruction Pamphlet
No. ~~300000~~ **0111082**

Page 1 of 1
Owner's Well Number 28OW-18

Date Work Began 06/21/2010 Date Work Ended 6/21/2010

Local Permit Agency Santa Clara Valley Water District

Permit Number 10W00268 Permit Date 6/3/10

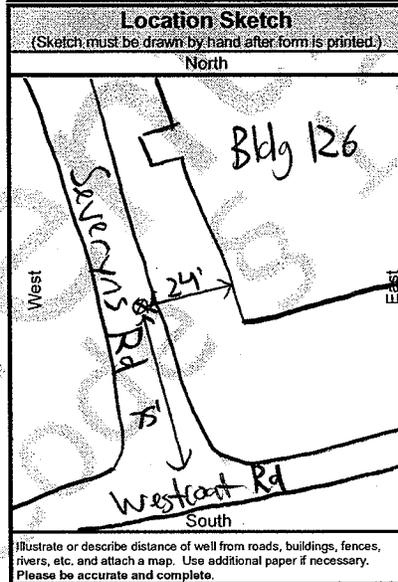
DWR Use Only - Do Not Fill In

State Well Number/Site Number			
Latitude		Longitude	
APN/TRS/Other			

Geologic Log		
Orientation <input checked="" type="radio"/> Vertical <input type="radio"/> Horizontal <input type="radio"/> Angle Specify _____		
Drilling Method <u>Hollow Stem Auger</u> Drilling Fluid _____		
Depth from Surface	Description	
Feet to Feet	Describe material, grain size, color, etc	
0	0.25	Asphalt
0.25	1	Well graded sand with gravel - olive brown
1	5	Clay - olive gray
5	6	Silty sand with gravel - olive
6	7	Poorly graded sand - olive gray
7	7.5	Clay - dark olive gray
7.5	10	No recovery
10	10.5	Silt - greenish black
10.5	11	Clay - very dark greenish gray
11	14	Silt - very dark greenish gray
14	15	Clay - greenish black
15	15.5	Silt - greenish black
15.5	16.5	Silty sand - greenish black
16.5	17	Silt - very dark greenish gray
17	19	Clay with sand - very dark greenish gray
19	20	No recovery
20	21	Clay - dark greenish gray
21	22.5	Silt with sand - very dark greenish gray
22.5	24.5	Silty sand - dark greenish gray
24.5	25	Clay - very dark greenish gray
25	28.5	Clay - dark greenish gray
28.5	29.5	Clay - olive brown
29.5	30	Silty sand - olive brown
30	31	Clay - brown
31	32	Clay with sand - brown
Total Depth of Boring <u>32</u> Feet		
Total Depth of Completed Well <u>32</u> Feet		

Well Owner	
Name	<u>U.S. Department of the Navy</u>
Mailing Address	<u>1455 Frazee Road, Suite 900</u>
City	<u>San Diego</u> State <u>CA</u> Zip <u>92108</u>

Well Location	
Address	<u>Site 28, Former Naval Air Station Moffett Field</u>
City	<u>Moffett Field</u> County <u>Santa Clara</u>
Latitude	_____ N Longitude _____ W
Datum	_____ Decimal Lat. _____ Decimal Long. _____
APN Book	_____ Page _____ Parcel _____
Township	_____ Range _____ Section _____



Activity
<input checked="" type="radio"/> New Well
<input type="radio"/> Modification/Repair
<input type="radio"/> Deepen
<input type="radio"/> Other _____
<input type="radio"/> Destroy
<small>Describe procedures and materials under "GEOLOGIC LOG"</small>

Planned Uses
<input type="radio"/> Water Supply
<input type="checkbox"/> Domestic <input type="checkbox"/> Public
<input type="checkbox"/> Irrigation <input type="checkbox"/> Industrial
<input type="radio"/> Cathodic Protection
<input type="radio"/> Dewatering
<input type="radio"/> Heat Exchange
<input type="radio"/> Injection
<input checked="" type="radio"/> Monitoring
<input type="radio"/> Remediation
<input type="radio"/> Sparging
<input type="radio"/> Test Well
<input type="radio"/> Vapor Extraction
<input type="radio"/> Other _____

Water Level and Yield of Completed Well	
Depth to first water	_____ (Feet below surface)
Depth to Static	_____ (Feet)
Water Level	<u>4.68</u> (Feet) Date Measured <u>06/28/2010</u>
Estimated Yield *	_____ (GPM) Test Type _____
Test Length	_____ (Hours) Total Drawdown _____ (Feet)
*May not be representative of a well's long term yield.	

Casings								
Depth from Surface	Borehole Diameter	Type	Material	Wall Thickness	Outside Diameter	Screen Type	Slot Size if Any	
Feet to Feet	(Inches)			(Inches)	(Inches)		(Inches)	
0	22	10	Blank	PVC Sch. 40	0.154	2.375		
22	32	10	Screen	PVC Sch. 40	0.154	2.375	Slots	0.010

Annular Material			
Depth from Surface	Fill	Description	
Feet to Feet			
0	17.5	Cement	
17.5	20	Bentonite	Pellets
20	32	Filter Pack	#2/16 sand

Attachments
<input checked="" type="checkbox"/> Geologic Log
<input checked="" type="checkbox"/> Well Construction Diagram
<input type="checkbox"/> Geophysical Log(s)
<input type="checkbox"/> Soil/Water Chemical Analyses
<input type="checkbox"/> Other _____
<small>Attach additional information, if it exists.</small>

Certification Statement	
I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief	
Name <u>Woodward Drilling Co., INC.</u>	
Person, Firm or Corporation	
<u>550 River Road</u>	<u>Rio Vista</u> <u>CA</u> <u>94571</u>
Address	City State Zip
Signed <u>Conroy E Woodward</u>	<u>7-22-10</u> <u>70079</u>
C-57 Licensed Water Well Contractor	Date Signed C-57 License Number

WELL CONSTRUCTION APPLICATION

TO BE COMPLETED BY DISTRICT

District Permit No.: <u>10W00268</u>	Date Issued: <u>6/3/10</u>	Well Registration No.:
Geologic Setting: <u>1</u>	Expiration Date: <u>12/3/10</u>	Driller's Log No.: <u>E0111082</u>

TO BE COMPLETED BY OWNER AND DRILLER

Well Owner: US Department of the Navy - BRAC	Property Owner: National Aeronautics & Space Administration	Name of Business at Well Site: National Aeronautics & Space Administration
Well Owner's Mailing Address: 1455 Frazee Road, Suite 900 City, State, Zip San Diego, CA 92108	Property Owner's Mailing Address: NASA Ames Research Center, Building 237, Room 115 City, State, Zip Moffett Field, CA 94035	Address of Well Site: IR Site 28, Former Naval Air Station Moffett Field City, State, Zip Moffett Field, CA 94035
Telephone No. & Contact Name: Valerie Harris (619) 532-0981	Telephone No. & Contact Name: Donald Chuck (650) 604-0237	Telephone No.: None

Owner's/Consultant's Well No.: 280W-18 Assessor's Parcel No. of Well Site: Book 116 Page 18 Parcel 012

Consultant (Company): Shaw Environmental, Inc.	Drilling Company: Woodward Drilling
Address: 4005 Port Chicago Highway City, State, Zip Concord, CA 94520-1120	Address: P.O. Box 336, 550 River Road City, State, Zip Rio Vista, CA 94571
Telephone No.: (925) 288-9898	Telephone No.: (707) 374-4300
<input type="checkbox"/> Check if address or phone number has changed	C-57 License No.: 710079
<input type="checkbox"/> Check if address or phone number has changed	<input type="checkbox"/> Check if address or phone number has changed

THIS SECTION TO BE COMPLETED FOR ALL MONITORING WELLS OR EXTRACTION/RECOVERY WELLS

Case Name/No.:	Caseworker Name: <u>Alana Lee</u>
Oversight Agency: <u>USEPA Region IX</u>	Caseworker Telephone No.: <u>(415) 972-3141</u>
Type of Monitoring Device: <input checked="" type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	Signature of Responsible Professional: <u>Neil Hey</u> Neil Hey Print Name Civil Engineer Registration No. _____ OR _____ Geologist Registration No. _____
Type of Extraction Device: <input type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	
Monitoring Well Use: <input type="checkbox"/> Depth <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Chloride	
Nested/Multi-Level Well: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
NOTE: If Nested/Multi-Level Well is proposed, a separate permit is needed for each casing.	

Estimated Depth of Completed Well: Less than 50 feet 50 to 300 feet Over 300 feet Other: _____

Purpose of Well: Domestic Municipal/Industrial Agricultural Monitoring Cathodic Protection Other: _____

NOTE: Monitoring wells are those constructed for the purpose of obtaining repetitive water level measurements and/or repetitive air samples for analysis.

Well is to be constructed: In a public sidewalk In a public road On public property On private property On District property/easement*

Within 50 feet of the top of a creek bank or District facility

Within 50 feet of sanitary sewer: Yes No

Within 100 feet of a pit privy, septic tank, or leachfield: Yes No

Within 150 feet of a cesspool or seepage pit: Yes No

*See General Condition F, page 2. Other wells exist on this property? Yes No If yes, status: Active Inactive Abandoned

SIGNATURES

I understand and agree that all work associated with this permit is required to be done in accordance with Santa Clara Valley Water District (District) Well Ordinance 90-1, the District Well Standards, and the conditions of this permit (see page 2). I certify that the information given in this permit is correct to the best of my knowledge and that the signature below, whether original, electronic, or photocopied, is authorized and valid, and is affixed with the intent to be enforceable. I also certify that a right of entry/encroachment agreement has been formalized between the well owner and property owner, if parties differ. I also understand that it is my responsibility, as the well owner, to notify the District of any changes in the purpose of this well, from which, is indicated on this application.

Signature of Property Owner/Agent: <u>Donald M. Chuck</u>	Date: <u>5/21/2010</u>	Print Name of Property Owner/Agent: Donald M. Chuck
Signature of Well Owner/Agent: <u>Valerie Harris</u>	Date: <u>5/21/2010</u>	Print Name of Well Owner/Agent: Valerie Harris
Signature of Well Driller/Agent: <u>Wayne E. Woodward</u>	Date: <u>5/24/2010</u>	Print Name of Driller/Agent: Wayne Woodward
Signature of Consultant/Agent: <u>Neil Hey</u>	Date: <u>5/25/2010</u>	Print Name of Consultant/Agent: Neil Hey

IMPORTANT: A minimum 24-hour notice must be given to Santa Clara Valley Water District Well Inspection Department prior to installing the annular seal. Call (408) 265-2607, ext. 2660. For weekends, holidays, or after-hours, call (408) 265-2607, ext. 2120. Please allow 10 working days to process permit application.

MAY 23 2010



5750 Almaden Expressway
San Jose, CA 95118-3686
(408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 158 (05-07-08)
Page 2 of 2

DISTRICT WELL PERMIT NO.: _____

Based on information on this application and attachment(s) hereto (if any) and subject to approval noted below, permission is hereby granted to construct (drill) the described well. Permission to start work may be withheld until a field check verifies all statements made on application by permittee and is also subject to the "General" and "Special" Conditions stated below.

SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH APPROVAL (Water Supply Well Only)

NOTE: Department of Environmental Health approval must be granted before this application will be accepted by Santa Clara Valley Water District.

Approved by:

R.E.H.S

Approved as submitted

Approved as corrected

Date:

SITE PLAN

A 8½" x 11" paper site plan must be attached to this application, including:

1. Location of site features, including major buildings, landscaped areas, tank fields, existing wells, etc.
2. North arrow and scale
3. Location of proposed well with dimensions in feet from well to nearest cross streets.

GENERAL CONDITIONS

- A. District (telephone 408-265-2607, ext. 2660) must be notified a minimum of one working day before construction of the annular seal. An authorized District representative must be on site to witness the construction of the annular seal. This requirement may be waived by an authorized District representative. If the District waives the inspection requirement, the District may request the permittee(s) to furnish certification, under penalty of perjury, that the well was constructed in accordance with the District Well Standards and with the permit conditions.
- B. Permittee agrees to construct, operate, and maintain the well according to provisions of the latest District Ordinance and the latest published revisions of District Well Standards to the end that this well will not cause pollution or contamination of groundwater or otherwise jeopardize the health, safety, or welfare of the people of the District.
- C. This permit is valid only for the purpose specified herein. Well construction methods authorized under this permit may not be changed except by written approval of an authorized District representative, and only if the District believes that such a change will result in equal or superior compliance with the District and State Well Standards (e.g., if the District representative finds that site conditions warrant such a change).
- D. This permit is only valid for the Assessor's Parcel No. indicated on it.
- E. This permit may be voided if it contains incorrect information. If the permit is voided after work has begun, the well or boring that was constructed under this permit must be destroyed in accordance with District and State Well Standards.
- F. If any work associated with this permit will take place on District property/easement, an encroachment or construction permit must be granted by the District's Community Projects Review Unit (telephone 408-265-2607, ext. 2589).
- G. Before the well constructed under this permit can be used as a drinking water source, its use must be approved by the regulatory agency with authority over such use (typically the Santa Clara County Department of Environmental Health or the State of California Department of Public Health). A completed Well Inventory Form must also be approved.
- H. If the well constructed under this permit cannot be or is not being used for its intended purpose, permittee is hereby required to destroy the well according to the District Well Standards and under permit from the District. Any test holes drilled under this permit must be destroyed within 24 hours of completion of testing activities. Destruction activities must be completed according to District standards. District must be notified a minimum of 24 hours prior to destruction.
- I. Within 30 days of the completion of the well construction activities, the driller or consultant identified on this permit shall fully complete State of California DWR Form 188 and mail the original to the District's Wells and Water Production Unit.
- J. The permittee(s) shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend, and hold the District, its officers, agents, and employees, free and harmless from any and all expense, cost, and liability in connection with or resulting from the granting or exercise of this permit including, but not limited to, property damage, personal injury, and wrongful death.
- K. Permittees are required to be in full compliance with Cal/OSHA California Labor Code Section 6300.
- L. A current C-57 Water Well Drilling Contractor's License is required for the construction of all wells.
- M. Permittee, permittee's contractors, consultants, or agents shall be responsible to assure that all materials or waters generated during drilling, well construction, well development, pump testing, or other activities associated with this permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on- or off-site storm sewers, dry wells, or waterways. Such materials/waters must not be allowed to move off the property where the work is being completed.
- N. The driller and consultants (if applicable) shall have an active copy of their Worker's Compensation Insurance on file with District.
- O. This permit shall expire if not exercised within 180 calendar days of its approval, unless an extension of the permit expiration date is granted by an authorized District representative.
- P. This permit must be kept on site during all activities associated with it and shall immediately be presented to an authorized District representative upon request.

SPECIAL CONDITIONS

Community Projects Review Unit Approval (if needed):

CPRU Permit No.:

Approved by:

Date:

Please allow 10 working days to process this application.



Drilling Log

Monitoring Well **28OW-18**

Page: 1 of 2

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816
 Surface Elev.* 21.4 ft. Total Hole Depth 32 ft. bgs North* 1975894.4 East* 6110247.7
 Top of Casing* 21.09 ft. Water Level Initial NA Static ▼ 4.8 ft. Diameter 10 in.
 Screen: Dia 2 in. Length 10 ft. Type/Slot Size Sch 40 PVC/0.010 in.
 Casing: Dia 2 in. Length 22 ft. Type Sch 40 PVC
 Fill Material See Comments Rig/Core BK81
 Drill Co. Woodward Drilling Method Hollow Stem Auger
 Driller Amador Arroyo Log By Michael Glas Well Inst. Date 6/21/10 Permit # 10W00268
 Checked By Timothy Ripp License No. CHG 786

COMMENTS
Annular Seal
Cement Grout 0-17.5'
Plug
Bentonite Chips 17.5-20'
Filter Pack
#2/16 Sand 20-32'
Screened Interval
Machine Slotted Sch 40 PVC
22-32'

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0	8" Vault					Hand-augered to 5'
0						Asphalt.
0 - 2	Sch 40 PVC 0-24'		100%	SW	SW	WELL GRADED SAND WITH GRAVEL, olive brown (2.5Y 4/3), 70% coarse to fine sand, 30% coarse to fine gravel, dry, subangular to subrounded
2 - 4	Cement grout 0-17.5'		100%	CL	CL	CLAY, olive gray (5Y 4/2), dry, hard, non-plastic
4 - 6			50%	SM	SM	SILTY SAND WITH GRAVEL, olive (5Y 4/4), 50% coarse to fine sand, 30% coarse to fine gravel, 20% silt, wet, loose, rounded
6 - 8			50%	SP	SP	POORLY GRADED SAND, olive gray (5Y 4/2), medium to fine sand, trace coarse sand and silt, wet, loose, subangular to subrounded
8 - 10			50%	CH	CH	CLAY, dark olive gray (5Y 3/2), 70% clay, 30% silt, silt, moist, soft, plastic
10 - 12			100%	ML	ML	SILT, greenish black (GLE Y1 2.5/1), wet, soft, non-plastic
12 - 14			100%	CL	CL	CLAY, very dark greenish gray (GLE Y1 3/1), damp, firm, semi-plastic
14 - 16			100%	ML	ML	SILT, very dark greenish gray (GLE Y1 3/1), damp, soft, non-plastic, iron oxide stained
16 - 18			100%	CL	CL	CLAY, greenish black (GLE Y1 2.5/1), 70% clay, 30% silt, damp, soft, semi-plastic

Continued Next Page

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

*CCS Zone 3, NAD83, NAVD88



Drilling Log

Monitoring Well **28OW-18**

Page: 2 of 2

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
16					ML	SILT, greenish black (GLE Y1 2.5/1), 70% silt, 30% clay, wet, very soft, non-plastic
					SM	SILTY SAND, greenish black (GLE Y1 2.5/1), 80% fine sand, 20% silt, wet, soft, subangular to subrounded
					ML	SILT, very dark greenish gray (GLE Y1 3/1), damp, firm, semi-plastic
18			80%		CH	CLAY WITH SAND, very dark greenish gray (GLE Y1 3/1), 75% clay, 25% coarse to fine sand, damp, firm, plastic
20		Bentonite Chips 17.5-20'			CL	CLAY, dark greenish gray (GLE Y1 4/1), 60% clay, 40% silt, damp, soft, semi-plastic
		#2/16 Sand 20-32'			ML	SILT WITH SAND, very dark greenish gray (GLE Y1 3/1), 80% silt, 20% coarse to fine sand, damp, soft
22			100%		SM	SILTY SAND, dark greenish gray (GLE Y1 4/1), 80% medium to fine sand, 20% silt, trace coarse sand, wet, medium dense, subangular to subrounded
24					CL	CLAY, very dark greenish gray (GLE Y1 3/1), dry, hard, semi-plastic CLAY, dark greenish gray (GLE Y1 4/1), moist, hard, semi-plastic
26			100%		CH	CLAY, olive brown (2.5Y 4/3), moist, firm, plastic
28		0.010" Sch 40 PVC 22-32'			SM	SILTY SAND, olive brown (2.5Y 4/4), damp, medium dense, 85% medium to fine sand, 15% silt, trace fine gravel to coarse sand
30			100%		CL	CLAY, brown (10YR 4/3), trace sand, damp, semi-plastic, firm
32		Threaded cap with gasket			CH	CLAY WITH SAND, brown (10YR 4/3), damp, firm, plastic, 80% clay, 20% coarse to fine sand, trace fine gravel
34						Boring terminated at 32 feet.

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

File Original with DWR

State of California

Well Completion Report

Refer to Instruction Pamphlet

No. ~~XXXXXX~~ - DA10900

Page 1 of 1

Owner's Well Number 28OW-19

Date Work Began 06/17/2010

Date Work Ended 6/17/2010

Local Permit Agency Santa Clara Valley Water District

Permit Number 10W00267

Permit Date 6/3/10

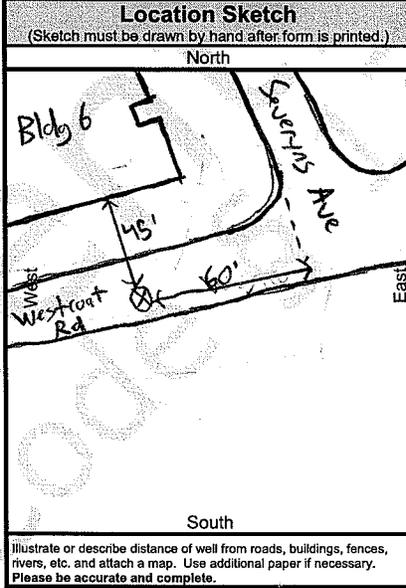
DWR Use Only - Do Not Fill In

State Well Number/Site Number	
Latitude	Longitude
APN/TRS/Other	

Geologic Log		
Orientation <input checked="" type="radio"/> Vertical <input type="radio"/> Horizontal <input type="radio"/> Angle Specify _____		
Drilling Method <u>Hollow Stem Auger</u> Drilling Fluid _____		
Depth from Surface		Description
Feet	to Feet	Describe material, grain size, color, etc.
0	0.25	Asphalt
0.25	2	Well graded sand with gravel - dark olive brown
2	5	Clay - olive brown
5	5.5	Silty sand with gravel - olive
5.5	7	Clay - olive gray
7	8.5	Silt - olive gray
8.5	10	No recovery
10	11	Silt - greenish black
11	12.5	Clay - very dark greenish gray
12.5	15	No recovery
15	15	Silt - olive gray
15.5	16.25	Silty sand - olive brown
16.25	16.5	Well graded sand - dark olive brown
16.5	18	Silt - very dark greenish gray
18	20	No recovery
20	21	Well graded sand - dark olive brown
21	22	Poorly graded sand - dark olive brown
22	25	No recovery
25	26.5	Clay - dark greenish gray
26.5	28.5	Clay - olive
28.5	29	Silty sand - olive brown
29	30	No recovery
30	35	Clay - olive brown
35	40	Silt - olive brown
Total Depth of Boring <u>40</u>		Feet
Total Depth of Completed Well <u>40</u>		Feet

Well Owner	
Name	<u>U.S. Department of the Navy</u>
Mailing Address	<u>1455 Frazee Road, Suite 900</u>
City	<u>San Diego</u> State <u>CA</u> Zip <u>92108</u>

Well Location	
Address	<u>Site 28, Former Naval Air Station Moffett Field</u>
City	<u>Moffett Field</u> County <u>Santa Clara</u>
Latitude	_____ N Longitude _____ W
Dec. Min. Sec.	Dec. Min. Sec.
Datum	Decimal Lat. _____ Decimal Long. _____
APN Book	Page _____ Parcel _____
Township	Range _____ Section _____



Activity
<input checked="" type="radio"/> New Well
<input type="radio"/> Modification/Repair
<input type="radio"/> Deepen
<input type="radio"/> Other _____
<input type="radio"/> Destroy
<small>Describe procedures and materials under "GEOLOGIC LOG"</small>

Planned Uses
<input type="radio"/> Water Supply
<input type="checkbox"/> Domestic <input type="checkbox"/> Public
<input type="checkbox"/> Irrigation <input type="checkbox"/> Industrial
<input type="radio"/> Cathodic Protection
<input type="radio"/> Dewatering
<input type="radio"/> Heat Exchange
<input type="radio"/> Injection
<input checked="" type="radio"/> Monitoring
<input type="radio"/> Remediation
<input type="radio"/> Sparging
<input type="radio"/> Test Well
<input type="radio"/> Vapor Extraction
<input type="radio"/> Other _____

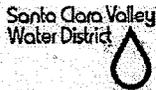
Water Level and Yield of Completed Well	
Depth to first water _____	(Feet below surface)
Depth to Static _____	
Water Level <u>5.22</u>	(Feet) Date Measured <u>06/25/2010</u>
Estimated Yield * _____	(GPM) Test Type _____
Test Length _____	(Hours) Total Drawdown _____ (Feet)
*May not be representative of a well's long term yield.	

Casings							
Depth from Surface	Borehole Diameter	Type	Material	Wall Thickness	Outside Diameter	Screen Type	Slot Size
Feet to Feet	(Inches)			(Inches)	(Inches)		(Inches)
0	35	8	Blank	PVC Sch. 40	0.154	2.375	
35	40	8	Screen	PVC Sch. 40	0.154	2.375	0.010

Annular Material			
Depth from Surface	Fill	Description	
Feet to Feet			
0	30	Cement	
30	33	Bentonite	Pellets
33	40	Filter Pack	#2/16 sand

Attachments
<input checked="" type="checkbox"/> Geologic Log
<input checked="" type="checkbox"/> Well Construction Diagram
<input type="checkbox"/> Geophysical Log(s)
<input type="checkbox"/> Soil/Water Chemical Analyses
<input type="checkbox"/> Other _____
<small>Attach additional information, if it exists.</small>

Certification Statement	
I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief	
Name <u>Woodward Drilling Co., INC.</u>	
Person, Firm or Corporation	
<u>550 River Road</u>	<u>Rio Vista</u> <u>CA</u> <u>94571</u>
Address	City State Zip
Signed <u>Conroy E Woodward</u>	Date Signed <u>7-22-10</u> <u>210029</u>
C-57 Licensed Water Well Contractor	C-57 License Number



5750 Almaden Expressway
San Jose, CA 95118-3686
(408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 158 (05-07-08)
Page 1 of 2

TO BE COMPLETED BY DISTRICT

District Permit No.: <u>10W00267</u>	Date Issued: <u>6/3/10</u>	Well Registration No.:
Geologic Setting: <u>1</u>	Expiration Date: <u>12/3/10</u>	Driller's Log No.: <u>E0110900</u>

TO BE COMPLETED BY OWNER AND DRILLER

Well Owner: US Department of the Navy - BRAC	Property Owner: National Aeronautics & Space Administration	Name of Business at Well Site: National Aeronautics & Space Administration
Well Owner's Mailing Address: 1455 Frazee Road, Suite 900 City, State, Zip San Diego, CA 92108	Property Owner's Mailing Address: NASA Ames Research Center, Building 237, Room 115 City, State, Zip Moffett Field, CA 94035	Address of Well Site: IR Site 28, Former Naval Air Station Moffett Field City, State, Zip Moffett Field, CA 94035
Telephone No. & Contact Name: Valerie Harris (619) 532-0981	Telephone No. & Contact Name: Donald Chuck (650) 604-0237	Telephone No.: None

Owner's/Consultant's Well No.: <u>28OW-19</u>	Assessor's Parcel No. of Well Site: <u>Book 116 Page 18 Parcel 012</u>	
Consultant (Company): Shaw Environmental, Inc.	Drilling Company: Woodward Drilling	
Address: <u>4005 Port Chicago Highway</u> City, State, Zip <u>Concord, CA 94520-1120</u>	Address: <u>P.O. Box 336, 550 River Road</u> City, State, Zip <u>Rio Vista, CA 94571</u>	
Telephone No.: (925) 288-9898	Telephone No.: (707) 374-4300	C-57 License No.: 710079
<input type="checkbox"/> Check if address or phone number has changed	<input type="checkbox"/> Check if address or phone number has changed	

THIS SECTION TO BE COMPLETED FOR ALL MONITORING WELLS OR EXTRACTION/RECOVERY WELLS

Case Name/No.:	Caseworker Name: <u>Alana Lee</u>
Oversight Agency: <u>USEPA Region IX</u>	Caseworker Telephone No.: <u>(415) 972-3141</u>
Type of Monitoring Device: <input checked="" type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	<p>(No substitution of signature will be accepted)</p> <p><u>Neil Hey</u> Signature of Responsible Professional</p> <p>Neil Hey Print Name</p> <p>_____ OR PG 8006 Civil Engineer Registration No. Geologist Registration No.</p>
Type of Extraction Device: <input type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	
Monitoring Well Use: <input type="checkbox"/> Depth <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Chloride	
Nested/Multi-Level Well: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
NOTE: If Nested/Multi-Level Well is proposed, a separate permit is needed for each casing.	

Estimated Depth of Completed Well: <input checked="" type="checkbox"/> Less than 50 feet <input type="checkbox"/> 50 to 300 feet <input type="checkbox"/> Over 300 feet <input type="checkbox"/> Other: _____	
Purpose of Well: <input type="checkbox"/> Domestic <input type="checkbox"/> Municipal/Industrial <input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Monitoring <input type="checkbox"/> Cathodic Protection <input type="checkbox"/> Other: _____	
NOTE: Monitoring wells are those constructed for the purpose of obtaining repetitive water level measurements and/or repetitive air samples for analysis.	
Well is to be constructed: <input type="checkbox"/> In a public sidewalk <input type="checkbox"/> In a public road <input checked="" type="checkbox"/> On public property <input type="checkbox"/> On private property <input type="checkbox"/> On District property/easement* <input type="checkbox"/> Within 50 feet of the top of a creek bank or District facility	
Within 50 feet of sanitary sewer: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Within 50 feet of any existing well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Within 100 feet of a pit privy, septic tank, or leachfield: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Within 150 feet of a cesspool or seepage pit: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
*See General Condition F, page 2.	Other wells exist on this property? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, status: <input checked="" type="checkbox"/> Active <input type="checkbox"/> Inactive <input type="checkbox"/> Abandoned

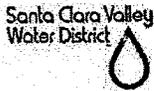
SIGNATURES

I understand and agree that all work associated with this permit is required to be done in accordance with Santa Clara Valley Water District (District) Well Ordinance 90-1, the District Well Standards, and the conditions of this permit (see page 2). I certify that the information given in this permit is correct to the best of my knowledge and that the signature below, whether original, electronic, or photocopied, is authorized and valid, and is affixed with the intent to be enforceable. I also certify that a right of entry/encroachment agreement has been formalized between the well owner and property owner, if parties differ. I also understand that it is my responsibility, as the well owner, to notify the District of any changes in the purpose of this well, from which, is indicated on this application.

Signature of Property Owner/Agent: <u>Donald M. Chuck</u>	Date: <u>5/21/2010</u>	Print Name of Property Owner/Agent: Donald M. Chuck
Signature of Well Owner/Agent: <u>Valerie Harris</u>	Date: <u>5/21/2010</u>	Print Name of Well Owner/Agent: Valerie Harris
Signature of Well Driller/Agent: <u>Wayne Woodward</u>	Date: <u>5/24/2010</u>	Print Name of Driller/Agent: Wayne Woodward
Signature of Consultant/Agent: <u>Neil Hey</u>	Date: <u>5/25/2010</u>	Print Name of Consultant/Agent: Neil Hey

IMPORTANT: A minimum 24-hour notice must be given to Santa Clara Valley Water District Well Inspection Department prior to installing the annular seal. Call (408) 265-2607, ext. 2660. For weekends, holidays, or after-hours, call (408) 265-2607, ext. 2120. Please allow 10 working days to process permit application.

MAY 26 2010



5750 Almaden Expressway
San Jose, CA 95118-3686
(408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 158 (05-07-08)
Page 2 of 2

DISTRICT WELL PERMIT NO.: _____

Based on information on this application and attachment(s) hereto (if any) and subject to approval noted below, permission is hereby granted to construct (drill) the described well. Permission to start work may be withheld until a field check verifies all statements made on application by permittee and is also subject to the "General" and "Special" Conditions stated below.

SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH APPROVAL (Water Supply Well Only)

NOTE: Department of Environmental Health approval must be granted before this application will be accepted by Santa Clara Valley Water District.

Approved by:

, R.E.H.S.

- Approved as submitted
- Approved as corrected

Date:

SITE PLAN

A 8½" x 11" paper site plan must be attached to this application, including:

1. Location of site features, including major buildings, landscaped areas, tank fields, existing wells, etc.
2. North arrow and scale
3. Location of proposed well with dimensions in feet from well to nearest cross streets.

GENERAL CONDITIONS

- A. District (telephone 408-265-2607, ext. 2660) must be notified a minimum of one working day before construction of the annular seal. An authorized District representative must be on site to witness the construction of the annular seal. This requirement may be waived by an authorized District representative. If the District waives the inspection requirement, the District may request the permittee(s) to furnish certification, under penalty of perjury, that the well was constructed in accordance with the District Well Standards and with the permit conditions.
- B. Permittee agrees to construct, operate, and maintain the well according to provisions of the latest District Ordinance and the latest published revisions of District Well Standards to the end that this well will not cause pollution or contamination of groundwater or otherwise jeopardize the health, safety, or welfare of the people of the District.
- C. This permit is valid only for the purpose specified herein. Well construction methods authorized under this permit may not be changed except by written approval of an authorized District representative, and only if the District believes that such a change will result in equal or superior compliance with the District and State Well Standards (e.g., if the District representative finds that site conditions warrant such a change).
- D. This permit is only valid for the Assessor's Parcel No. indicated on it.
- E. This permit may be voided if it contains incorrect information. If the permit is voided after work has begun, the well or boring that was constructed under this permit must be destroyed in accordance with District and State Well Standards.
- F. If any work associated with this permit will take place on District property/easement, an encroachment or construction permit must be granted by the District's Community Projects Review Unit (telephone 408-265-2607, ext. 2589).
- G. Before the well constructed under this permit can be used as a drinking water source, its use must be approved by the regulatory agency with authority over such use (typically the Santa Clara County Department of Environmental Health or the State of California Department of Public Health). A completed Well Inventory Form must also be approved.
- H. If the well constructed under this permit cannot be or is not being used for its intended purpose, permittee is hereby required to destroy the well according to the District Well Standards and under permit from the District. Any test holes drilled under this permit must be destroyed within 24 hours of completion of testing activities. Destruction activities must be completed according to District standards. District must be notified a minimum of 24 hours prior to destruction.
- I. Within 30 days of the completion of the well construction activities, the driller or consultant identified on this permit shall fully complete State of California DWR Form 188 and mail the original to the District's Wells and Water Production Unit.
- J. The permittee(s) shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend, and hold the District, its officers, agents, and employees, free and harmless from any and all expense, cost, and liability in connection with or resulting from the granting or exercise of this permit including, but not limited to, property damage, personal injury, and wrongful death.
- K. Permittees are required to be in full compliance with Cal/OSHA California Labor Code Section 6300.
- L. A current C-57 Water Well Drilling Contractor's License is required for the construction of all wells.
- M. Permittee, permittee's contractors, consultants, or agents shall be responsible to assure that all materials or waters generated during drilling, well construction, well development, pump testing, or other activities associated with this permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on- or off-site storm sewers, dry wells, or waterways. Such materials/waters must not be allowed to move off the property where the work is being completed.
- N. The driller and consultants (if applicable) shall have an active copy of their Worker's Compensation Insurance on file with District.
- O. This permit shall expire if not exercised within 180 calendar days of its approval, unless an extension of the permit expiration date is granted by an authorized District representative.
- P. This permit must be kept on site during all activities associated with it and shall immediately be presented to an authorized District representative upon request.

SPECIAL CONDITIONS

Community Projects Review Unit Approval (if needed):

CPRU Permit No.:

Approved by:

Date:

Please allow 10 working days to process this application.



Drilling Log

Monitoring Well **28OW-19**

Page: 1 of 1

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816
 Surface Elev.* 22.1 ft. Total Hole Depth 40 ft. bgs North* 1975768.2 East* 6110197.9
 Top of Casing* 21.60 ft. Water Level Initial NA Static ▼ 4.8 ft. Diameter 8 in.
 Screen: Dia 2 in. Length 5 ft. Type/Slot Size Sch 40 PVC/0.010 in.
 Casing: Dia 2 in. Length 35 ft. Type Sch 40 PVC
 Fill Material See Comments Rig/Core BK81
 Drill Co. Woodward Drilling Method Hollow Stem Auger
 Driller Amador Arroyo Log By Michael Glas Well Inst. Date 6/17/10 Permit # 10W00267
 Checked By Timothy Ripp License No. CHG 786

COMMENTS
Annular Seal
Cement Grout 0-30'
Plug
Bentonite Chips 30-33'
Filter Pack
#2/16 Sand 33-40'
Screened Interval
Machine Slotted Sch 40 PVC
35-40'

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0		8" Vault				See log 28OW-20 for lithologic information.
0-35'		Sch 40 PVC 0-35'				
0-30'		Cement grout 0-30'				
30-33'		Bentonite Chips 30-33'				
33-40'		#2/16 Sand 33-40'				
35-40'		0.010" Sch 40 PVC 35-40'				
40		Threaded cap with gasket				
45						

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

*CCS Zone 3, NAD83, NAVD88

*The free Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a saved form.

File Original with DWR

State of California

Well Completion Report

Refer to Instruction Pamphlet

No. ~~XXXXXX~~ - 0110899

Page 1 of 2

Owner's Well Number 28OW-20

Date Work Began 06/17/2010

Date Work Ended 6/17/2010

Local Permit Agency Santa Clara Valley Water District

Permit Number 10W00266

Permit Date 6/3/10

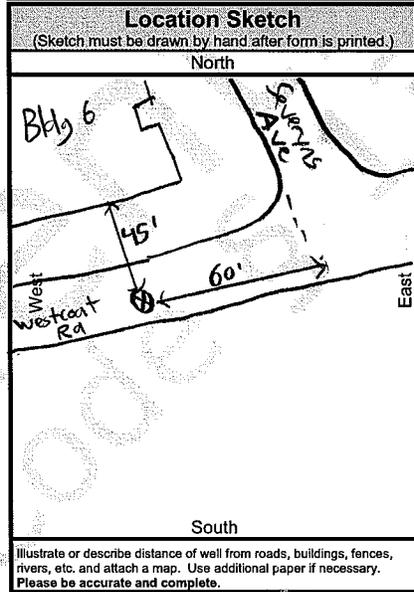
DWR Use Only - Do Not Fill In

State Well Number/Site Number			
Latitude	N	Longitude	W
APN/TRS/Other			

Geologic Log		
Orientation <input checked="" type="radio"/> Vertical <input type="radio"/> Horizontal <input type="radio"/> Angle Specify _____		
Drilling Method <u>Hollow Stem Auger</u> Drilling Fluid _____		
Depth from Surface	Description	
Feet to Feet	Describe material, grain size, color, etc	
0	0, 2.5	Asphalt
0, 2.5	2	Well graded sand with gravel - dark olive brown
2	5	Clay - olive brown
5	5.5	Silty sand with gravel - olive
5.5	7	Clay - olive gray
7	8.5	Silt - olive gray
8.5	10	No recovery
10	11	Silt - greenish black
11	12.5	Clay - very dark greenish gray
12.5	15	No recovery
15	15.5	Silt - olive gray
15.5	16.25	Silty sand - olive brown
16.25	16.5	Well graded sand - dark olive brown
16.5	18	Silt - very dark greenish gray
18	20	No recovery
20	21	Well graded sand - dark olive brown
21	22	Poorly graded sand - dark olive brown
22	25	No recovery
25	26.5	Clay - dark greenish gray
26.5	28.5	Clay - olive
28.5	29	Silty sand - olive brown
29	30	No recovery
30	35	Clay - olive brown
35	41	Silt - olive brown
41	42.5	Clay - dark greenish gray
42.5	44.5	Clay - olive brown
44.5	45	Silty sand - olive brown
45	46.5	Sandy silt - olive brown
46.5	48.5	Sandy clay - olive brown
48.5	50	No recovery
Total Depth of Boring <u>62</u> Feet		
Total Depth of Completed Well <u>62</u> Feet		

Well Owner		
Name	<u>U.S. Department of the Navy</u>	
Mailing Address	<u>1455 Frazee Road, Suite 900</u>	
City	<u>San Diego</u>	State <u>CA</u> Zip <u>92108</u>

Well Location		
Address	<u>Site 28, Former Naval Air Station Moffett Field</u>	
City	<u>Moffett Field</u>	County <u>Santa Clara</u>
Latitude	Dea. Min. Sec. N	Longitude Dea. Min. Sec. W
Datum	Decimal Lat.	Decimal Long.
APN Book	Page	Parcel
Township	Range	Section



Activity
<input checked="" type="radio"/> New Well
<input type="radio"/> Modification/Repair
<input type="radio"/> Deepen
<input type="radio"/> Other _____
<input type="radio"/> Destroy
<small>Describe procedures and materials under "GEOLOGIC LOG"</small>

Planned Uses	
<input type="radio"/> Water Supply	<input type="checkbox"/> Domestic <input type="checkbox"/> Public
<input type="checkbox"/> Irrigation	<input type="checkbox"/> Industrial
<input type="radio"/> Cathodic Protection	
<input type="radio"/> Dewatering	
<input type="radio"/> Heat Exchange	
<input type="radio"/> Injection	
<input checked="" type="radio"/> Monitoring	
<input type="radio"/> Remediation	
<input type="radio"/> Sparging	
<input type="radio"/> Test Well	
<input type="radio"/> Vapor Extraction	
<input type="radio"/> Other _____	

Water Level and Yield of Completed Well		
Depth to first water	_____ (Feet below surface)	
Depth to Static	_____	
Water Level	<u>4.33</u>	(Feet) Date Measured <u>06/25/2010</u>
Estimated Yield *	_____	(GPM) Test Type _____
Test Length	_____	(Hours) Total Drawdown _____ (Feet)
*May not be representative of a well's long term yield.		

Casings						
Depth from Surface	Borehole Diameter	Type	Material	Wall Thickness	Outside Diameter	Screen Type
Feet to Feet	(Inches)			(Inches)	(Inches)	
0	52	8	Blank	PVC Sch. 40	0.154	2.375
52	62	8	Screen	PVC Sch. 40	0.154	2.375

Annular Material			
Depth from Surface	Fill	Description	
Feet to Feet			
0	48	Cement	
48	50	Bentonite	Pellets
50	62	Filter Pack	#2/16 sand

Attachments
<input checked="" type="checkbox"/> Geologic Log
<input checked="" type="checkbox"/> Well Construction Diagram
<input type="checkbox"/> Geophysical Log(s)
<input type="checkbox"/> Soil/Water Chemical Analyses
<input type="checkbox"/> Other _____
<small>Attach additional information, if it exists.</small>

Certification Statement			
I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief			
Name <u>Woodward Drilling Co., INC.</u>			
<small>Person, Firm or Corporation</small>			
<u>550 River Road</u>	<u>Rio Vista</u>	<u>CA</u>	<u>94571</u>
<small>Address</small>		<small>City</small>	<small>State</small>
Signed <u>Gregory E Woodward</u>	<u>7-22-10</u>	<u>710079</u>	
<small>C-57 Licensed Water Well Contractor</small>		<small>Date Signed</small>	<small>C-57 License Number</small>

WELL CONSTRUCTION APPLICATION

TO BE COMPLETED BY DISTRICT

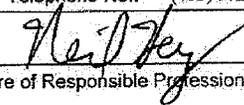
District Permit No.: <u>10W00266</u>	Date Issued: <u>6/3/10</u>	Well Registration No.:
Geologic Setting: <u>1</u>	Expiration Date: <u>12/3/10</u>	Driller's Log No.: <u>E0110899</u>

TO BE COMPLETED BY OWNER AND DRILLER

Well Owner: US Department of the Navy - BRAC	Property Owner: National Aeronautics & Space Administration	Name of Business at Well Site: National Aeronautics & Space Administration
Well Owner's Mailing Address: 1455 Frazee Road, Suite 900 City, State, Zip San Diego, CA 92108	Property Owner's Mailing Address: NASA Ames Research Center, Building 237, Room 115 City, State, Zip Moffett Field, CA 94035	Address of Well Site: IR Site 28, Former Naval Air Station Moffett Field City, State, Zip Moffett Field, CA 94035
Telephone No. & Contact Name: Valerie Harris (619) 532-0981	Telephone No. & Contact Name: Donald Chuck (650) 604-0237	Telephone No.: None

Owner's/Consultant's Well No.: <u>28OW-20</u>	Assessor's Parcel No. of Well Site: <u>Book 116 Page 18 Parcel 012</u>	
Consultant (Company): Shaw Environmental, Inc.	Drilling Company: Woodward Drilling	
Address: <u>4005 Port Chicago Highway</u> City, State, Zip <u>Concord, CA 94520-1120</u>	Address: <u>P.O. Box 336, 550 River Road</u> City, State, Zip <u>Rio Vista, CA 94571</u>	
Telephone No.: (925) 288-9898	Telephone No.: (707) 374-4300	C-57 License No.: 710079
<input type="checkbox"/> Check if address or phone number has changed	<input type="checkbox"/> Check if address or phone number has changed	

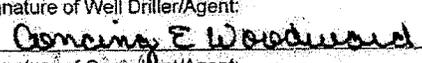
THIS SECTION TO BE COMPLETED FOR ALL MONITORING WELLS OR EXTRACTION/RECOVERY WELLS

Case Name/No.:	Caseworker Name: <u>Alana Lee</u>
Oversight Agency: <u>USEPA Region IX</u>	Caseworker Telephone No.: <u>(415) 972-3141</u>
Type of Monitoring Device: <input checked="" type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	(No substitution of signature will be accepted)  Signature of Responsible Professional Neil Hey Print Name Civil Engineer Registration No. _____ OR PG 8006 Geologist Registration No. _____
Type of Extraction Device: <input type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	
Monitoring Well Use: <input type="checkbox"/> Depth <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Chloride	
Nested/Multi-Level Well: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
NOTE: If Nested/Multi-Level Well is proposed, a separate permit is needed for each casing.	

Estimated Depth of Completed Well: <input type="checkbox"/> Less than 50 feet <input checked="" type="checkbox"/> 50 to 300 feet <input type="checkbox"/> Over 300 feet <input type="checkbox"/> Other: _____
Purpose of Well: <input type="checkbox"/> Domestic <input type="checkbox"/> Municipal/Industrial <input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Monitoring <input type="checkbox"/> Cathodic Protection <input type="checkbox"/> Other: _____
NOTE: Monitoring wells are those constructed for the purpose of obtaining repetitive water level measurements and/or repetitive air samples for analysis.
Well is to be constructed: <input type="checkbox"/> In a public sidewalk <input type="checkbox"/> In a public road <input checked="" type="checkbox"/> On public property <input type="checkbox"/> On private property <input type="checkbox"/> On District property/easement* <input type="checkbox"/> Within 50 feet of the top of a creek bank or District facility
Within 50 feet of sanitary sewer: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Within 100 feet of a pit, privy, septic tank, or leachfield: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 50 feet of any existing well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Within 150 feet of a cesspool or seepage pit: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
*See General Condition F, page 2. Other wells exist on this property? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, status: <input checked="" type="checkbox"/> Active <input type="checkbox"/> Inactive <input type="checkbox"/> Abandoned

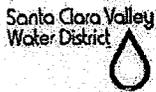
SIGNATURES

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Signature of Property Owner/Agent: 	Date: <u>5/21/2010</u>	Print Name of Property Owner/Agent: Donald M. Chuck
Signature of Well Owner/Agent: 	Date: <u>5/21/2010</u>	Print Name of Well Owner/Agent: Valerie Harris
Signature of Well Driller/Agent: 	Date: <u>5/24/2010</u>	Print Name of Driller/Agent: Wayne Woodward
Signature of Consultant/Agent: 	Date: <u>5/25/2010</u>	Print Name of Consultant/Agent: Neil Hey

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MAY 26 2010



5750 Almaden Expressway
San Jose, CA 95118-3686
(408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 158 (05-07-08)
Page 2 of 2

DISTRICT WELL PERMIT NO.: _____

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SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH APPROVAL (Water Supply Well Only)

NOTE: Department of Environmental Health approval must be granted before this application will be accepted by Santa Clara Valley Water District.

Approved by:

R.E.H.S

- Approved as submitted
- Approved as corrected

Date:

SITE PLAN

A 8½" x 11" paper site plan must be attached to this application, including:

1. Location of site features, including major buildings, landscaped areas, tank fields, existing wells, etc.
2. North arrow and scale
3. Location of proposed well with dimensions in feet from well to nearest cross streets.

GENERAL CONDITIONS

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- B. Permittee agrees to construct, operate, and maintain the well according to provisions of the latest District Ordinance and the latest published revisions of District Well Standards to the end that this well will not cause pollution or contamination of groundwater or otherwise jeopardize the health, safety, or welfare of the people of the District.
- C. This permit is valid only for the purpose specified herein. Well construction methods authorized under this permit may not be changed except by written approval of an authorized District representative, and only if the District believes that such a change will result in equal or superior compliance with the District and State Well Standards (e.g., if the District representative finds that site conditions warrant such a change).
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- H. If the well constructed under this permit cannot be or is not being used for its intended purpose, permittee is hereby required to destroy the well according to the District Well Standards and under permit from the District. Any test holes drilled under this permit must be destroyed within 24 hours of completion of testing activities. Destruction activities must be completed according to District standards. District must be notified a minimum of 24 hours prior to destruction.
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- J. The permittee(s) shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend, and hold the District, its officers, agents, and employees, free and harmless from any and all expense, cost, and liability in connection with or resulting from the granting or exercise of this permit including, but not limited to, property damage, personal injury, and wrongful death.
- K. Permittees are required to be in full compliance with Cal/OSHA California Labor Code Section 6300.
- L. A current C-57 Water Well Drilling Contractor's License is required for the construction of all wells.
- M. Permittee, permittee's contractors, consultants, or agents shall be responsible to assure that all materials or waters generated during drilling, well construction, well development, pump testing, or other activities associated with this permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on- or off-site storm sewers, dry wells, or waterways. Such materials/waters must not be allowed to move off the property where the work is being completed.
- N. The driller and consultants (if applicable) shall have an active copy of their Worker's Compensation Insurance on file with District.
- O. This permit shall expire if not exercised within 180 calendar days of its approval, unless an extension of the permit expiration date is granted by an authorized District representative.
- P. This permit must be kept on site during all activities associated with it and shall immediately be presented to an authorized District representative upon request.

SPECIAL CONDITIONS

Community Projects Review Unit Approval (if needed):

CPRU Permit No.:

Approved by:

Date:

Please allow 10 working days to process this application.



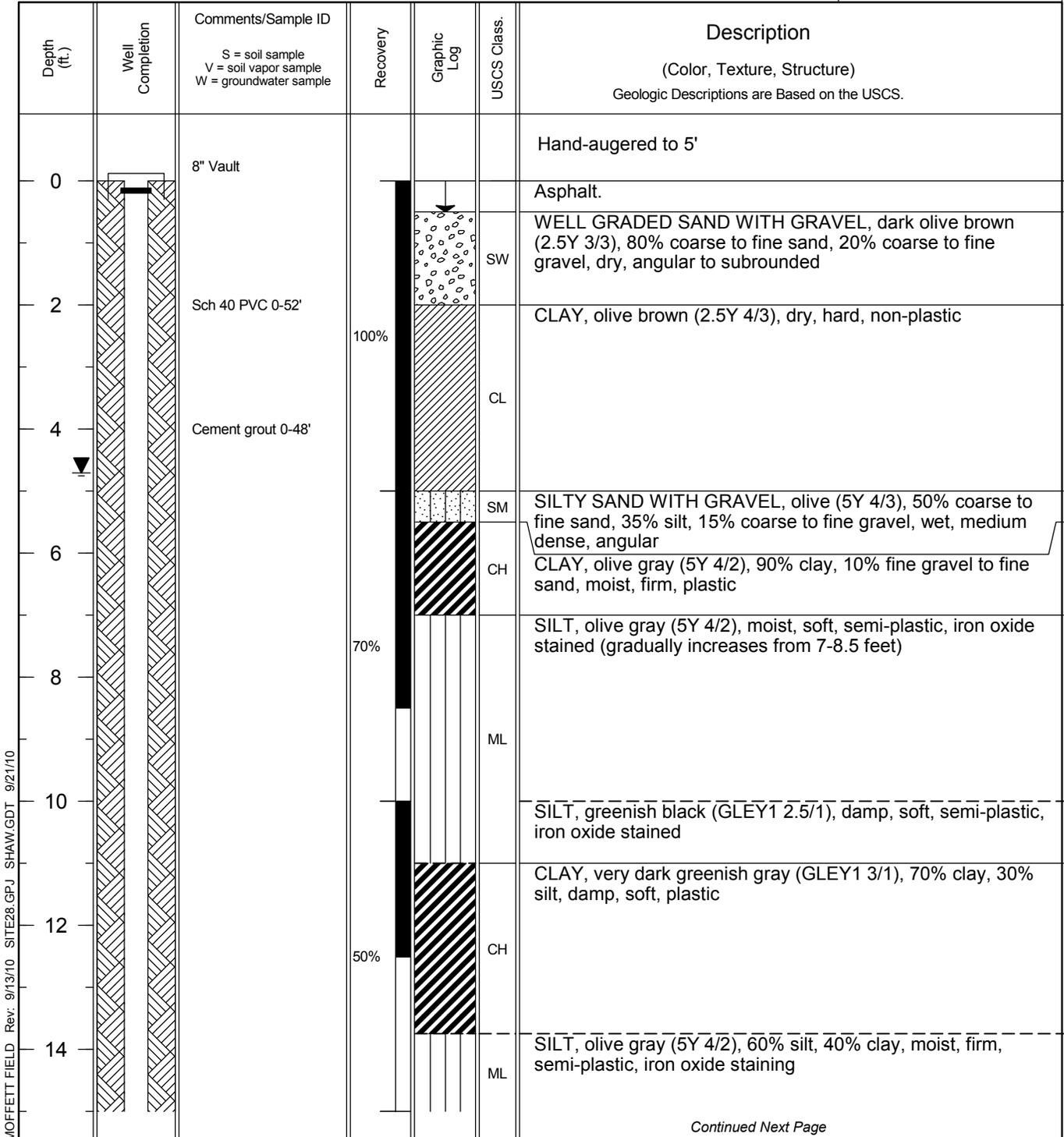
Drilling Log

Monitoring Well **28OW-20**

Page: 1 of 4

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816
 Surface Elev.* 22.1 ft. Total Hole Depth 62 ft. bgs North* 1975766.1 East* 6110194.0
 Top of Casing* 21.80 ft. Water Level Initial NA Static ▼ 4.7 ft. Diameter 8 in.
 Screen: Dia 2 in. Length 10 ft. Type/Slot Size Sch 40 PVC/0.010 in.
 Casing: Dia 2 in. Length 52 ft. Type Sch 40 PVC
 Fill Material See Comments Rig/Core BK81
 Drill Co. Woodward Drilling Method Hollow Stem Auger
 Driller Amador Arroyo Log By Michael Glas Well Inst. Date 6/17/10 Permit # 10W00266
 Checked By Timothy Ripp License No. CHG 786

COMMENTS
Annular Seal
Cement Grout 0-48'
Plug
Bentonite Chips 48-50'
Filter Pack
#2/16 Sand 50-62'
Screened Interval
Machine Slotted Sch 40 PVC
52-62'



Continued Next Page

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

*CCS Zone 3, NAD83, NAVD88



Drilling Log

Monitoring Well **28OW-20**

Page: 2 of 4

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
16					ML	SILTY SAND, olive brown (2.5Y 4/3), 85% medium to fine sand, 15% silt, wet, medium dense, subangular to subrounded
16					SM	
16					SW-SM	WELL GRADED SAND, dark olive brown (2.5Y 3/3), 80% coarse to fine sand, 10% fine gravel, 10% silt, wet, loose, subangular to subrounded
18			60%		ML	SILT, very dark greenish gray (GLE Y1 3/1), damp, soft, semi-plastic
20					SW	WELL GRADED SAND, dark olive brown (2.5Y 3/3), trace fine gravel, wet, loose, rounded to angular
22			40%		SP	POORLY GRADED SAND, dark olive brown (2.5Y 3/3), 80% coarse to medium sand, 10% fine gravel, 10% fine sand to silt, wet, loose, subrounded
24					CH	CLAY, dark greenish gray (GLE Y1 4/1), moist, hard, plastic
26					CH	
28			80%		CL	CLAY, olive (5Y 4/3), trace fine gravel to fine sand, moist, hard, semi-plastic Damp, soft.
30					SM	SILTY SAND, olive brown (2.5Y 4/4), 60% fine sand, 40% silt, wet, soft, rounded to subrounded
30					CH	CLAY, olive brown (2.5Y 4/4), trace fine gravel and sand, moist, firm, plastic
32					CH	
34			100%		CH	

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

Continued Next Page



Drilling Log

Monitoring Well **28OW-20**

Page: 3 of 4

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
					CH	
36			100%		ML	SILT, olive brown (2.5Y 4/3), 90% silt, 10% fine sand, wet, soft, non-plastic Moist, hard, semi-plastic.
40						SILT, olive brown (2.5Y 4/4), damp, soft, trace sand, semi-plastic, iron oxide stained
42			100%		CL	CLAY, dark greenish gray (GLE Y1 4/1), 60% clay, 40% silt, moist, soft, semi-plastic, iron oxide stained At 42.5': olive brown (2.5Y 4/4), 60% clay, 40% silt, moist, soft, semi-plastic.
44					SM	SILTY SAND, olive brown (2.5Y 4/4), 85% medium to fine sand, 15% silt, trace fine gravel to coarse sand, wet, medium dense, subangular to subrounded
46					ML	SANDY SILT, olive brown (2.5Y 4/3), 70% silt, 30% fine sand, wet, soft, non-plastic
48			70%		SC	SANDY CLAY, olive brown (2.5Y 4/4), 70% clay, 30% coarse to fine sand, moist, firm, semi-plastic
50		Bentonite Chips 48-50'			SM	SILTY SAND WITH GRAVEL, olive brown (2.5Y 4/4), 60% coarse to fine sand, 25% coarse to fine gravel, 15% silt, wet, medium dense, subrounded to subangular
52		#2/16 Sand 50-62'	40%		CH	CLAY, olive brown (2.5Y 4/3), 70% clay, 30% silt, moist, firm, elastic

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

Continued Next Page



Drilling Log

Monitoring Well **28OW-20**

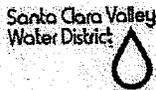
Page: 4 of 4

Project Site IR28 Treatability Study Owner U.S. Navy

Location Former NAS Moffett Field, CA Proj. No. 133816

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.			
54		0.010" Sch 40 PVC 52-62' Threaded cap with gasket			ML CH	SANDY SILT, olive brown (2.5Y 4/4), 70% silt, 30% coarse to fine sand, damp, firm, non-plastic			
56									
58									
60						CLAY, olive (5Y 4/3), moist, hard, plastic			
62						Boring terminated at 62 feet.			
64									
66									
68									
70									
72									

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10



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San Jose, CA 95118-3688
(408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 156 (05-07-08)
Page 1 of 2

TO BE COMPLETED BY DISTRICT

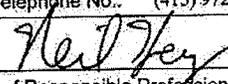
District Permit No.: <u>10W00265</u>	Date Issued: <u>6-2-10</u>	Well Registration No.:
Geologic Setting: <u>1</u>	Expiration Date: <u>12-2-10</u>	Driller's Log No.: <u>E0110898</u>

TO BE COMPLETED BY OWNER AND DRILLER

Well Owner: US Department of the Navy - BRAC	Property Owner: National Aeronautics & Space Administration	Name of Business at Well Site: National Aeronautics & Space Administration
Well Owner's Mailing Address: 1455 Frazee Road, Suite 900 City, State, Zip San Diego, CA 92108	Property Owner's Mailing Address: NASA Ames Research Center, Building 237, Room 115 City, State, Zip Moffett Field, CA 94035	Address of Well Site: IR Site 28, Former Naval Air Station Moffett Field City, State, Zip Moffett Field, CA 94035
Telephone No. & Contact Name: Valerie Harris (619) 532-0981	Telephone No. & Contact Name: Donald Chuck (650) 604-0237	Telephone No.: None
Owner's/Consultant's Well No.: 280W-21	Assessor's Parcel No. of Well Site:	Book <u>116</u> Page <u>18</u> Parcel <u>012</u>

Consultant (Company): Shaw Environmental, Inc.	Drilling Company: Woodward Drilling	
Address: 4005 Port Chicago Highway City, State, Zip Concord, CA 94520-1120	Address: P.O. Box 336, 550 River Road City, State, Zip Rio Vista, CA 94571	
Telephone No.: (925) 288-9898	Telephone No.: (707) 374-4300	C-57 License No.: 710079
<input type="checkbox"/> Check if address or phone number has changed	<input type="checkbox"/> Check if address or phone number has changed	

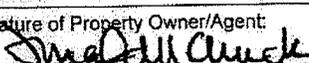
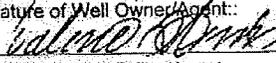
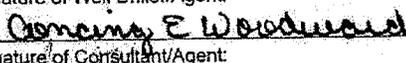
THIS SECTION TO BE COMPLETED FOR ALL MONITORING WELLS OR EXTRACTION/RECOVERY WELLS

Case Name/No.:	Caseworker Name: Alana Lee
Oversight Agency: USEPA Region IX	Caseworker Telephone No.: (415) 972-3141
Type of Monitoring Device: <input checked="" type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	<p>(No substitution of signature will be accepted)</p>  Signature of Responsible Professional Neil Hey Print Name _____ OR PG 8006 Civil Engineer Registration No. _____ Geologist Registration No. _____
Type of Extraction Device: <input type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	
Monitoring Well Use: <input type="checkbox"/> Depth <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Chloride	
Nested/Multi-Level Well: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
NOTE: If Nested/Multi-Level Well is proposed, a separate permit is needed for each casing.	

Estimated Depth of Completed Well: <input checked="" type="checkbox"/> Less than 50 feet <input type="checkbox"/> 50 to 300 feet <input type="checkbox"/> Over 300 feet <input type="checkbox"/> Other: _____	
Purpose of Well: <input type="checkbox"/> Domestic <input type="checkbox"/> Municipal/Industrial <input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Monitoring <input type="checkbox"/> Cathodic Protection <input type="checkbox"/> Other: _____	
NOTE: Monitoring wells are those constructed for the purpose of obtaining repetitive water level measurements and/or repetitive air samples for analysis.	
Well is to be constructed: <input type="checkbox"/> In a public sidewalk <input type="checkbox"/> In a public road <input checked="" type="checkbox"/> On public property <input type="checkbox"/> On private property <input type="checkbox"/> On District property/easement* <input type="checkbox"/> Within 50 feet of the top of a creek bank or District facility	
Within 50 feet of sanitary sewer: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Within 50 feet of any existing well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Within 100 feet of a pit privy, septic tank, or leachfield: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Within 150 feet of a cesspool or seepage pit: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
*See General Condition F, page 2.	Other wells exist on this property? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, status: <input checked="" type="checkbox"/> Active <input type="checkbox"/> Inactive <input type="checkbox"/> Abandoned

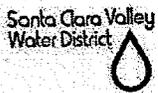
SIGNATURES

I understand and agree that all work associated with this permit is required to be done in accordance with Santa Clara Valley Water District (District) Well Ordinance 90-1, the District Well Standards, and the conditions of this permit (see page 2). I certify that the information given in this permit is correct to the best of my knowledge and that the signature below, whether original, electronic, or photocopied, is authorized and valid, and is affixed with the intent to be enforceable. I also certify that a right of entry/encroachment agreement has been formalized between the well owner and property owner, if parties differ. I also understand that it is my responsibility, as the well owner, to notify the District of any changes in the purpose of this well, from which, is indicated on this application.

Signature of Property Owner/Agent: 	Date: 5/21/2010	Print Name of Property Owner/Agent: Donald M. Chuck
Signature of Well Owner/Agent: 	Date: 5/21/2010	Print Name of Well Owner/Agent: Valerie Harris
Signature of Well Driller/Agent: 	Date: 5/24/2010	Print Name of Driller/Agent: Wayne Woodward
Signature of Consultant/Agent: 	Date: 5/25/2010	Print Name of Consultant/Agent: Neil Hey

IMPORTANT: A minimum 24-hour notice must be given to Santa Clara Valley Water District Well Inspection Department prior to installing the annular seal. Call (408) 265-2607, ext. 2660. For weekends, holidays, or after-hours, call (408) 265-2607, ext. 2120. Please allow 10 working days to process permit application.

MAY 25 2010



5750 Almaden Expressway
San Jose, CA 95118-3686
(408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 158 (05-07-08)
Page 2 of 2

DISTRICT WELL PERMIT NO.: _____

Based on information on this application and attachment(s) hereto (if any) and subject to approval noted below, permission is hereby granted to construct (drill) the described well. Permission to start work may be withheld until a field check verifies all statements made on application by permittee and is also subject to the "General" and "Special" Conditions stated below.

SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH APPROVAL (Water Supply Well Only)

NOTE: Department of Environmental Health approval must be granted before this application will be accepted by Santa Clara Valley Water District.

Approved by:	, R.E.H.S	<input type="checkbox"/> Approved as submitted
		<input type="checkbox"/> Approved as corrected
		Date: _____

SITE PLAN

- A 8½" x 11" paper site plan must be attached to this application, including:
1. Location of site features, including major buildings, landscaped areas, tank fields, existing wells, etc.
 2. North arrow and scale
 3. Location of proposed well with dimensions in feet from well to nearest cross streets.

GENERAL CONDITIONS

- A. District (telephone 408-265-2607, ext. 2660) must be notified a minimum of one working day before construction of the annular seal. An authorized District representative must be on site to witness the construction of the annular seal. This requirement may be waived by an authorized District representative. If the District waives the inspection requirement, the District may request the permittee(s) to furnish certification, under penalty of perjury, that the well was constructed in accordance with the District Well Standards and with the permit conditions.
- B. Permittee agrees to construct, operate, and maintain the well according to provisions of the latest District Ordinance and the latest published revisions of District Well Standards to the end that this well will not cause pollution or contamination of groundwater or otherwise jeopardize the health, safety, or welfare of the people of the District.
- C. This permit is valid only for the purpose specified herein. Well construction methods authorized under this permit may not be changed except by written approval of an authorized District representative, and only if the District believes that such a change will result in equal or superior compliance with the District and State Well Standards (e.g., if the District representative finds that site conditions warrant such a change).
- D. This permit is only valid for the Assessor's Parcel No. indicated on it.
- E. This permit may be voided if it contains incorrect information. If the permit is voided after work has begun, the well or boring that was constructed under this permit must be destroyed in accordance with District and State Well Standards.
- F. If any work associated with this permit will take place on District property/easement, an encroachment or construction permit must be granted by the District's Community Projects Review Unit (telephone 408-265-2607, ext. 2589).
- G. Before the well constructed under this permit can be used as a drinking water source, its use must be approved by the regulatory agency with authority over such use (typically the Santa Clara County Department of Environmental Health or the State of California Department of Public Health). A completed Well Inventory Form must also be approved.
- H. If the well constructed under this permit cannot be or is not being used for its intended purpose, permittee is hereby required to destroy the well according to the District Well Standards and under permit from the District. Any test holes drilled under this permit must be destroyed within 24 hours of completion of testing activities. Destruction activities must be completed according to District standards. District must be notified a minimum of 24 hours prior to destruction.
- I. Within 30 days of the completion of the well construction activities, the driller or consultant identified on this permit shall fully complete State of California DWR Form 188 and mail the original to the District's Wells and Water Production Unit.
- J. The permittee(s) shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend, and hold the District, its officers, agents, and employees, free and harmless from any and all expense, cost, and liability in connection with or resulting from the granting or exercise of this permit including, but not limited to, property damage, personal injury, and wrongful death.
- K. Permittees are required to be in full compliance with Cal/OSHA California Labor Code Section 6300.
- L. A current C-57 Water Well Drilling Contractor's License is required for the construction of all wells.
- M. Permittee, permittee's contractors, consultants, or agents shall be responsible to assure that all materials or waters generated during drilling, well construction, well development, pump testing, or other activities associated with this permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on- or off-site storm sewers, dry wells, or waterways. Such materials/waters must not be allowed to move off the property where the work is being completed.
- N. The driller and consultants (if applicable) shall have an active copy of their Worker's Compensation Insurance on file with District.
- O. This permit shall expire if not exercised within 180 calendar days of its approval, unless an extension of the permit expiration date is granted by an authorized District representative.
- P. This permit must be kept on site during all activities associated with it and shall immediately be presented to an authorized District representative upon request.

SPECIAL CONDITIONS

Community Projects Review Unit Approval (if needed):	CPRU Permit No.:
Approved by:	Date:

Please allow 10 working days to process this application.



Drilling Log

Monitoring Well **28OW-21**

Page: 1 of 1

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816
 Surface Elev.* 23.6 ft. Total Hole Depth 40 ft. bgs North* 1975725.1 East* 6110189.4
 Top of Casing* 23.12 ft. Water Level Initial NA Static ▼ 5.8 ft. Diameter 8 in.
 Screen: Dia 2 in. Length 5 ft. Type/Slot Size Sch 40 PVC/0.010 in.
 Casing: Dia 2 in. Length 35 ft. Type Sch 40 PVC
 Fill Material See Comments Rig/Core BK81
 Drill Co. Woodward Drilling Method Hollow Stem Auger
 Driller Amador Arroyo Log By Michael Glas Well Inst. Date 6/16/10 Permit # 10W00265
 Checked By Timothy Ripp License No. CHG 786

COMMENTS
Annular Seal
Cement Grout 0-31'
Plug
Bentonite Chips 31-33'
Filter Pack
#2/16 Sand 33-40'
Screened Interval
Machine Slotted Sch 40 PVC
35-40'

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0		8" Vault				See log 28OW-22 for lithologic information.
0-35'	Sch 40 PVC					
0-31'	Cement grout					
5						
10						
15						
20						
25						
30		Bentonite Chips 31-33'				
33-40'		#2/16 Sand 33-40'				
35-40'		0.010" Sch 40 PVC 35-40'				
40		Threaded cap with gasket				
45						

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

*CCS Zone 3, NAD83, NAVD88

File Original with DWR

State of California

Well Completion Report

Refer to Instruction Pamphlet
No. ~~XXXXXX~~ 20110847

Page 1 of 2

Owner's Well Number 28OW-22

Date Work Began 06/15/2010

Date Work Ended 6/15/2010

Local Permit Agency Santa Clara Valley Water District

Permit Number 10W00264

Permit Date 6/2/10

DWR Use Only - Do Not Fill In

State Well Number/Site Number									
Latitude					Longitude				
APN/TRS/Other									

Geologic Log

Orientation <input checked="" type="radio"/> Vertical <input type="radio"/> Horizontal <input type="radio"/> Angle Specify _____		
Drilling Method <u>Hollow Stem Auger</u> Drilling Fluid _____		
Depth from Surface		Description
Feet	to Feet	Describe material, grain size, color, etc
0	1	Well graded sand with gravel - dark grayish brown
1	2.5	Well graded gravel with sand - dark grayish brown
2.5	5	Clay - olive brown
5	7.5	Clay - dark olive gray
7.5	10	No recovery
10	12	Clay - olive gray
12	12.5	Silt - olive gray
12.5	15	No recovery
15	17.5	Clay - very dark gray
17.5	18	Silty sand - greenish black
18	19	Clay - greenish black
19	20	No recovery
20	24	Clay - very dark greenish gray
24	24.5	Poorly graded sand - very dark greenish gray
24.5	25	No recovery
25	26	Clay - very dark gray
26	26.5	Clayey sand - dark olive gray
26.5	29.5	Clay - dark greenish gray
29.5	30	No recovery
30	32.5	Clay - very dark greenish gray
32.5	35	Sandy clay - yellowish brown
35	40	Clay - light olive brown
40	42.5	Clay - olive brown
42.5	45	Sandy silt - olive brown
45	47.5	Poorly graded sand - dark brown
47.5	48	Poorly graded gravel with sand - dark brown
48	50	No recovery
50	53	Poorly graded sand - dark olive brown
53	53.5	Silty sand - olive brown
53.5	55	No recovery
Total Depth of Boring <u>62</u> Feet		
Total Depth of Completed Well <u>62</u> Feet		

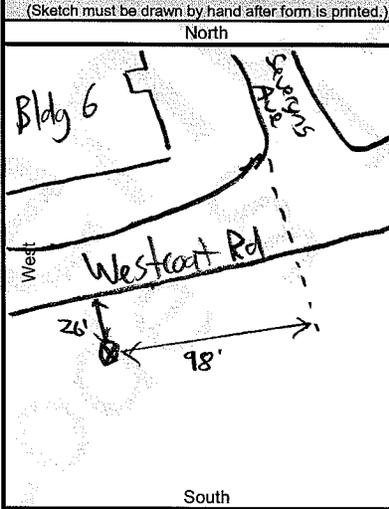
Well Owner

Name U.S. Department of the Navy
 Mailing Address 1455 Frazee Road, Suite 900
 City San Diego State CA Zip 92108

Well Location

Address Site 28, Former Naval Air Station Moffett Field
 City Moffett Field County Santa Clara
 Latitude _____ N Longitude _____ W
Dec. Min. Sec. Dec. Min. Sec.
 Datum _____ Decimal Lat. _____ Decimal Long. _____
 APN Book _____ Page _____ Parcel _____
 Township _____ Range _____ Section _____

Location Sketch



Activity

- New Well
 - Modification/Repair
 - Deepen
 - Other _____
 - Destroy
- Describe procedures and materials under "GEOLOGIC LOG"

Planned Uses

- Water Supply
 - Domestic Public
 - Irrigation Industrial
- Cathodic Protection
- Dewatering
- Heat Exchange
- Injection
- Monitoring
- Remediation
- Sparging
- Test Well
- Vapor Extraction
- Other _____

Water Level and Yield of Completed Well

Depth to first water _____ (Feet below surface)
 Depth to Static _____
 Water Level 6.5 (Feet) Date Measured 06/29/2010
 Estimated Yield * _____ (GPM) Test Type _____
 Test Length _____ (Hours) Total Drawdown _____ (Feet)
 *May not be representative of a well's long term yield.

Casings

Depth from Surface Feet to Feet	Borehole Diameter (Inches)	Type	Material	Wall Thickness (Inches)	Outside Diameter (Inches)	Screen Type	Slot Size if Any (Inches)
0	52	8	Blank	PVC Sch. 40	0.154	2.375	
52	62	8	Screen	PVC Sch. 40	0.154	2.375	Slots 0.010

Annular Material

Depth from Surface Feet to Feet	Fill	Description
0	48	Cement
48	50	Bentonite Pellets
50	62	Filter Pack #2/16 sand

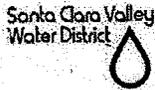
Attachments

- Geologic Log
- Well Construction Diagram
- Geophysical Log(s)
- Soil/Water Chemical Analyses
- Other _____

Attach additional information, if it exists.

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief
 Name Woodward Drilling Co., INC.
Person, Firm or Corporation
550 River Road Rio Vista CA 94571
Address City State Zip
 Signed Concieve E Woodward 7-22-10 710079
C-57 Licensed Water Well Contractor Date Signed C-57 License Number



5750 Almaden Expressway
San Jose, CA 95118-3686
(408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 158 (05-07-08)
Page 1 of 2

TO BE COMPLETED BY DISTRICT		
District Permit No.: <u>10W00264</u>	Date Issued: <u>6-2-10</u>	Well Registration No.:
Geologic Setting: <u>1</u>	Expiration Date: <u>12-2-10</u>	Driller's Log No.: <u>E0110897</u>

TO BE COMPLETED BY OWNER AND DRILLER		
Well Owner: US Department of the Navy - BRAC	Property Owner: National Aeronautics & Space Administration	Name of Business at Well Site: National Aeronautics & Space Administration
Well Owner's Mailing Address: 1455 Frazee Road, Suite 900 City, State, Zip San Diego, CA 92108	Property Owner's Mailing Address: NASA Ames Research Center, Building 237, Room 115 City, State, Zip Moffett Field, CA 94035	Address of Well Site: 1R Site 28, Former Naval Air Station Moffett Field City, State, Zip Moffett Field, CA 94035
Telephone No. & Contact Name: Valeric Harris (619) 532-0981	Telephone No. & Contact Name: Donald Chuck (650) 604-0237	Telephone No.: None
Owner's/Consultant's Well No.: <u>280W-22</u>	Assessor's Parcel No. of Well Site:	Book <u>116</u> Page <u>18</u> Parcel <u>012</u>
Consultant (Company): Shaw Environmental, Inc.	Drilling Company: Woodward Drilling	
Address: <u>4005 Port Chicago Highway</u> City, State, Zip <u>Concord, CA 94520-1120</u>	Address: <u>P.O. Box 336, 550 River Road</u> City, State, Zip <u>Rio Vista, CA 94571</u>	
Telephone No.: (925) 288-9898	Telephone No.: (707) 374-4300	C-57 License No.: 710079
<input type="checkbox"/> Check if address or phone number has changed	<input type="checkbox"/> Check if address or phone number has changed	

THIS SECTION TO BE COMPLETED FOR ALL MONITORING WELLS OR EXTRACTION/RECOVERY WELLS	
Case Name/No.:	Caseworker Name: <u>Alana Lee</u>
Oversight Agency: <u>USEPA Region IX</u>	Caseworker Telephone No.: <u>(415) 972-3141</u>
Type of Monitoring Device: <input checked="" type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	<p>(No substitution of signature will be accepted)</p> <p><u>Neil Hey</u> Signature of Responsible Professional</p> <p><u>Neil Hey</u> Print Name</p> <p>Civil Engineer Registration No. _____ OR PG 8006 Geologist Registration No. _____</p>
Type of Extraction Device: <input type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	
Monitoring Well Use: <input type="checkbox"/> Depth <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Chloride	
Nested/Multi-Level Well: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
NOTE: If Nested/Multi-Level Well is proposed, a separate permit is needed for each casing.	

Estimated Depth of Completed Well: <input type="checkbox"/> Less than 50 feet <input checked="" type="checkbox"/> 50 to 300 feet <input type="checkbox"/> Over 300 feet <input type="checkbox"/> Other: _____
Purpose of Well: <input type="checkbox"/> Domestic <input type="checkbox"/> Municipal/Industrial <input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Monitoring <input type="checkbox"/> Cathodic Protection <input type="checkbox"/> Other: _____
NOTE: Monitoring wells are those constructed for the purpose of obtaining repetitive water level measurements and/or repetitive air samples for analysis.
Well is to be constructed: <input type="checkbox"/> In a public sidewalk <input type="checkbox"/> In a public road <input checked="" type="checkbox"/> On public property <input type="checkbox"/> On private property <input type="checkbox"/> On District property/easement* <input type="checkbox"/> Within 50 feet of the top of a creek bank or District facility
Within 50 feet of sanitary sewer: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Within 100 feet of a pit privy, septic tank, or leachfield: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
*See General Condition F, page 2. Other wells exist on this property? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, status: <input checked="" type="checkbox"/> Active <input type="checkbox"/> Inactive <input type="checkbox"/> Abandoned

SIGNATURES

I understand and agree that all work associated with this permit is required to be done in accordance with Santa Clara Valley Water District (District) Well Ordinance 90-1, the District Well Standards, and the conditions of this permit (see page 2). I certify that the information given in this permit is correct to the best of my knowledge and that the signature below, whether original, electronic, or photocopied, is authorized and valid, and is affixed with the intent to be enforceable. I also certify that a right of entry/encroachment agreement has been formalized between the well owner and property owner, if parties differ. I also understand that it is my responsibility, as the well owner, to notify the District of any changes in the purpose of this well, from which, is indicated on this application.

Signature of Property Owner/Agent: <u>Donald M. Chuck</u>	Date: <u>5/21/2010</u>	Print Name of Property Owner/Agent: Donald M. Chuck
Signature of Well Owner/Agent: <u>Valeric Harris</u>	Date: <u>5/21/2010</u>	Print Name of Well Owner/Agent: Valeric Harris
Signature of Well Driller/Agent: <u>Wayne Woodward</u>	Date: <u>5/24/2010</u>	Print Name of Driller/Agent: Wayne Woodward
Signature of Consultant/Agent: <u>Neil Hey</u>	Date: <u>5/25/2010</u>	Print Name of Consultant/Agent: Neil Hey

IMPORTANT: A minimum 24-hour notice must be given to Santa Clara Valley Water District Well Inspection Department prior to installing the annular seal. Call (408) 265-2607, ext. 2660. For weekends, holidays, or after-hours, call (408) 265-2607, ext. 2120. Please allow 10 working days to process permit application.

MAY 26 2010



WELL CONSTRUCTION APPLICATION

DISTRICT WELL PERMIT NO.: _____

Based on information on this application and attachment(s) hereto (if any) and subject to approval noted below, permission is hereby granted to construct (drill) the described well. Permission to start work may be withheld until a field check verifies all statements made on application by permittee and is also subject to the "General" and "Special" Conditions stated below.

SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH APPROVAL (Water Supply Well Only)

NOTE: Department of Environmental Health approval must be granted before this application will be accepted by Santa Clara Valley Water District.

Approved by:

R.E.H.S

- Approved as submitted
 Approved as corrected

Date:

SITE PLAN

A 8½" x 11" paper site plan must be attached to this application, including:

1. Location of site features, including major buildings, landscaped areas, tank fields, existing wells, etc.
2. North arrow and scale
3. Location of proposed well with dimensions in feet from well to nearest cross streets.

GENERAL CONDITIONS

- A. District (telephone 408-265-2607, ext. 2660) must be notified a minimum of one working day before construction of the annular seal. An authorized District representative must be on site to witness the construction of the annular seal. This requirement may be waived by an authorized District representative. If the District waives the inspection requirement, the District may request the permittee(s) to furnish certification, under penalty of perjury, that the well was constructed in accordance with the District Well Standards and with the permit conditions.
- B. Permittee agrees to construct, operate, and maintain the well according to provisions of the latest District Ordinance and the latest published revisions of District Well Standards to the end that this well will not cause pollution or contamination of groundwater or otherwise jeopardize the health, safety, or welfare of the people of the District.
- C. This permit is valid only for the purpose specified herein. Well construction methods authorized under this permit may not be changed except by written approval of an authorized District representative, and only if the District believes that such a change will result in equal or superior compliance with the District and State Well Standards (e.g., if the District representative finds that site conditions warrant such a change).
- D. This permit is only valid for the Assessor's Parcel No. indicated on it.
- E. This permit may be voided if it contains incorrect information. If the permit is voided after work has begun, the well or boring that was constructed under this permit must be destroyed in accordance with District and State Well Standards.
- F. If any work associated with this permit will take place on District property/easement, an encroachment or construction permit must be granted by the District's Community Projects Review Unit (telephone 408-265-2607, ext. 2589).
- G. Before the well constructed under this permit can be used as a drinking water source, its use must be approved by the regulatory agency with authority over such use (typically the Santa Clara County Department of Environmental Health or the State of California Department of Public Health). A completed Well Inventory Form must also be approved.
- H. If the well constructed under this permit cannot be or is not being used for its intended purpose, permittee is hereby required to destroy the well according to the District Well Standards and under permit from the District. Any test holes drilled under this permit must be destroyed within 24 hours of completion of testing activities. Destruction activities must be completed according to District standards. District must be notified a minimum of 24 hours prior to destruction.
- I. Within 30 days of the completion of the well construction activities, the driller or consultant identified on this permit shall fully complete State of California DWR Form 188 and mail the original to the District's Wells and Water Production Unit.
- J. The permittee(s) shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend, and hold the District, its officers, agents, and employees, free and harmless from any and all expense, cost, and liability in connection with or resulting from the granting or exercise of this permit including, but not limited to, property damage, personal injury, and wrongful death.
- K. Permittees are required to be in full compliance with Cal/OSHA California Labor Code Section 6300.
- L. A current C-57 Water Well Drilling Contractor's License is required for the construction of all wells.
- M. Permittee, permittee's contractors, consultants, or agents shall be responsible to assure that all materials or waters generated during drilling, well construction, well development, pump testing, or other activities associated with this permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on- or off-site storm-sewers, dry wells, or waterways. Such materials/waters must not be allowed to move off the property where the work is being completed.
- N. The driller and consultants (if applicable) shall have an active copy of their Worker's Compensation Insurance on file with District.
- O. This permit shall expire if not exercised within 180 calendar days of its approval, unless an extension of the permit expiration date is granted by an authorized District representative.
- P. This permit must be kept on site during all activities associated with it and shall immediately be presented to an authorized District representative upon request.

SPECIAL CONDITIONS

Community Projects Review Unit Approval (if needed):

CPRU Permit No.:

Approved by:

Date:

Please allow 10 working days to process this application.



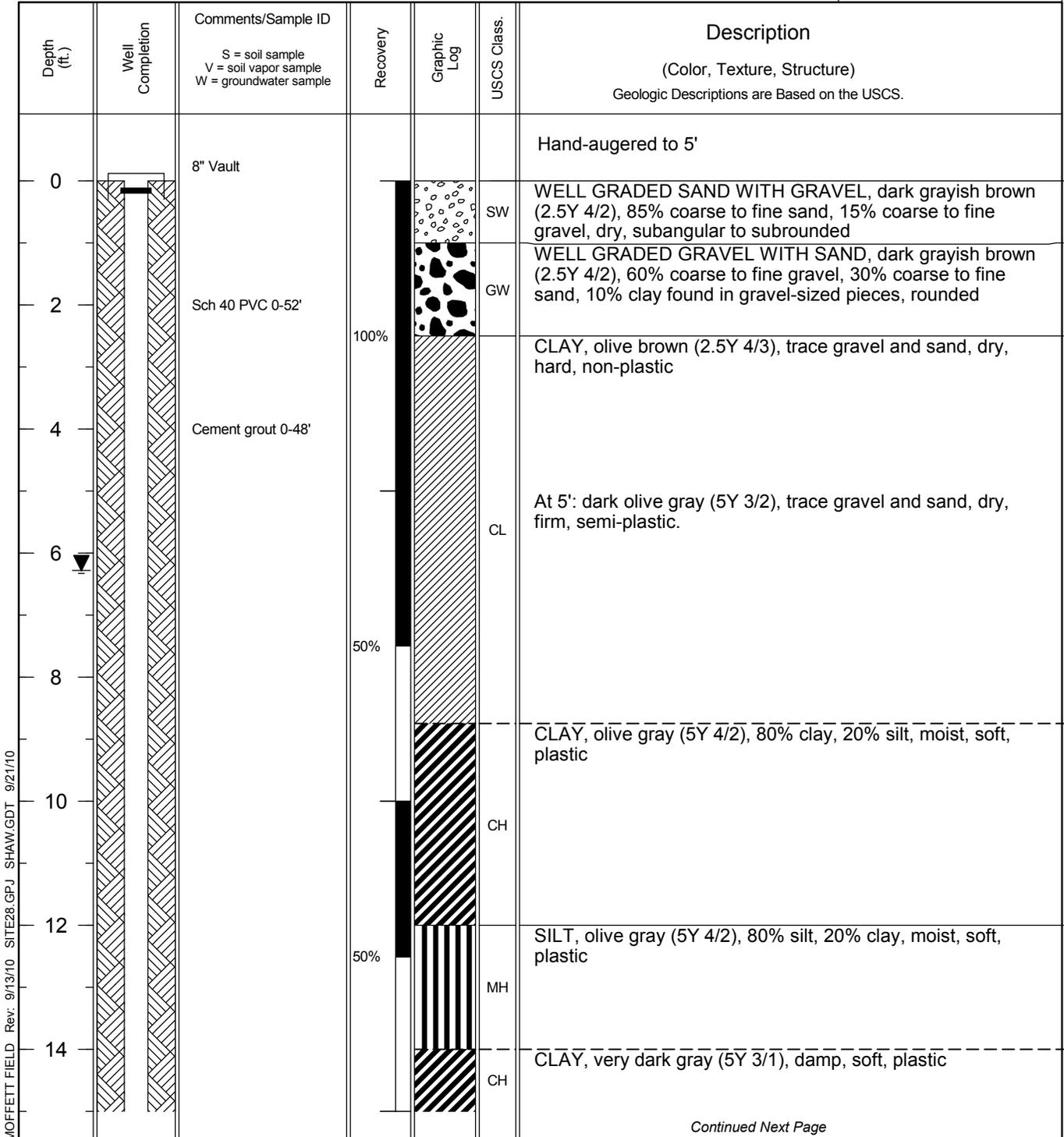
Drilling Log

Monitoring Well **28OW-22**

Page: 1 of 4

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816
 Surface Elev.* 23.7 ft. Total Hole Depth 62 ft. bgs North* 1975724.6 East* 6110187.2
 Top of Casing* 23.57 ft. Water Level Initial NA Static ▼ 6.3 ft. Diameter 8 in.
 Screen: Dia 2 in. Length 10 ft. Type/Slot Size Sch 40 PVC/0.010 in.
 Casing: Dia 2 in. Length 52 ft. Type Sch 40 PVC
 Fill Material See Comments Rig/Core BK81
 Drill Co. Woodward Drilling Method Hollow Stem Auger
 Driller Amador Arroyo Log By Michael Glas Well Inst. Date 6/15/10 Permit # 10W00264
 Checked By Timothy Ripp License No. CHG 786

COMMENTS
Annular Seal
Cement Grout 0-48'
Plug
Bentonite Chips 48-50'
Filter Pack
#2/16 Sand 50-62'
Screened Interval
Machine Slotted Sch 40 PVC
52-62'



MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

Continued Next Page

*CCS Zone 3, NAD83, NAVD88



Drilling Log

Monitoring Well **28OW-22**

Page: 2 of 4

Project Site IR28 Treatability Study Owner U.S. Navy

Location Former NAS Moffett Field, CA Proj. No. 133816

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
16					CH	
18			90%		SM	SILTY SAND, greenish black (GLE Y1 2.5/1), 80% fine sand, 20% silt, wet, loose, subrounded
20					CH	CLAY, greenish black (GLE Y1 2.5/1), 80% clay, 20% silt, trace sand, moist, soft, plastic
22			95%		CH	CLAY, very dark greenish gray (GLE Y1, 3/1), moist, soft, plastic, trace gravel
24					SP	POORLY GRADED SAND, very dark gray (5Y 3/1), 95% medium to fine sand, 5% silt, wet, loose, subangular to subrounded
26					CL	CLAY, very dark gray (5Y 3/1), moist, firm, semi-plastic Non-plastic.
28			95%		SC	CLAYEY SAND, dark olive gray (5Y 3/2), 85% fine sand, 15% clay, wet, medium dense, angular to subangular
30					CL	CLAY, dark greenish gray (GLE Y1 4/1), 85% clay, 15% silt, trace sand and gravel, moist, firm, semi-plastic
32					CL	CLAY, very dark greenish gray (GLE Y1 3/1), trace sand and gravel, moist, firm, semi-plastic, iron oxide stained
34			100%			CLAY WITH SAND, yellowish brown (10YR 5/4), 85% clay, 15% medium to fine sand, damp, soft, non-plastic

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

Continued Next Page



Drilling Log

Monitoring Well **28OW-22**

Page: 3 of 4

Project Site IR28 Treatability Study Owner U.S. Navy

Location Former NAS Moffett Field, CA Proj. No. 133816

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
36			100%	CL	CL	CLAY, light olive brown (2.5Y 5/3), trace gravel and sand, moist, firm plastic Damp, soft.
38			100%	CH	CH	At 38': light olive brown (2.5Y 5/3), moist, firm, plastic.
40			100%	CL	CL	CLAY, olive brown (2.5Y 4/3), 70% clay, 20% silt, 10% fine gravel to fine sand, damp, firm, semi-plastic, iron oxide stained
42			100%	ML	ML	SANDY SILT, olive brown (2.5Y 4/4), 70% silt, 30% fine sand, moist, firm, semi-plastic
44			60%	SP	SP	POORLY GRADED SAND, dark brown (10YR 3/3), medium to fine sand, wet, loose, subangular to subrounded
46			60%	GP	GP	POORLY GRADED GRAVEL WITH SAND, dark brown (10YR 3/3), 85% fine gravel, 15% coarse to fine sand, wet, loose, rounded
48		Bentonite Chips 48-50'	70%	SP	SP	POORLY GRADED SAND, dark olive brown (2.5Y 3/3), fine sand, trace medium sand, wet, loose, rounded to subrounded
50		#2/16 Sand 50-62'	70%	SM	SM	SILTY SAND, olive brown (2.5Y 4/4), 60% coarse to fine
52			70%			

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

Continued Next Page



Drilling Log

Monitoring Well **28OW-22**

Page: 4 of 4

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
54		0.010" Sch 40 PVC 52-62' Threaded cap with gasket			SM	sand, 40% silt, wet, loose, angular
56					SM	SILTY SAND, olive brown (2.5Y 4/4), 60% medium to fine sand, 40% silt, wet, medium dense, subangular to subrounded
58					CH	CLAY, olive (5Y 4/3), 80% clay, 20% silt, trace sand, moist, firm, plastic
60					SM	SILTY SAND, olive brown (2.5Y 4/4), 70% coarse to fine sand, 30% silt, wet, loose, angular
62					GM GP	SILTY GRAVEL WITH SAND, olive brown (2.5Y 4/4), 50% fine gravel, 25% coarse to fine sand, 25% silt, wet, loose, angular
						POORLY GRADED GRAVEL WITH SAND, olive brown (2.5Y 4/4), 60% fine gravel, 40% coarse sand, wet, loose, angular, trace silt
64						Boring terminated at 62 feet.
66						
68						
70						
72						

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

WELL CONSTRUCTION APPLICATION

TO BE COMPLETED BY DISTRICT

District Permit No.: <u>10W00263</u>	Date Issued: <u>6-2-10</u>	Well Registration No.:
Geologic Setting: <u>1</u>	Expiration Date: <u>12-2-10</u>	Driller's Log No.: <u>E0110896</u>

TO BE COMPLETED BY OWNER AND DRILLER

Well Owner: US Department of the Navy - BRAC	Property Owner: National Aeronautics & Space Administration	Name of Business at Well Site: National Aeronautics & Space Administration
Well Owner's Mailing Address: 1455 Frazee Road, Suite 900 City, State, Zip San Diego, CA 92108	Property Owner's Mailing Address: NASA Ames Research Center, Building 237, Room 115 City, State, Zip Moffett Field, CA 94035	Address of Well Site: IR Site 28, Former Naval Air Station Moffett Field City, State, Zip Moffett Field, CA 94035
Telephone No. & Contact Name: Valerie Harris (619) 532-0981	Telephone No. & Contact Name: Donald Chuck (650) 604-0237	Telephone No.: None

Owner's/Consultant's Well No.: 28OW-23 Assessor's Parcel No. of Well Site: Book 116 Page 18 Parcel 012

Consultant (Company): Shaw Environmental, Inc. Address: 4005 Port Chicago Highway City, State, Zip Concord, CA 94520-1120 Telephone No.: (925) 288-9898 <input type="checkbox"/> Check if address or phone number has changed	Drilling Company: Woodward Drilling Address: P.O. Box 336, 550 River Road City, State, Zip Rio Vista, CA 94571 Telephone No.: (707) 374-4300 <input type="checkbox"/> Check if address or phone number has changed	C-57 License No.: 710079
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THIS SECTION TO BE COMPLETED FOR ALL MONITORING WELLS OR EXTRACTION/RECOVERY WELLS

Case Name/No.:	Caseworker Name: <u>Alana Lee</u>
Oversight Agency: <u>USEPA Region IX</u>	Caseworker Telephone No.: <u>(415) 972-3141</u>
Type of Monitoring Device: <input checked="" type="checkbox"/> Groundwater <input type="checkbox"/> Vadose Type of Extraction Device: <input type="checkbox"/> Groundwater <input type="checkbox"/> Vadose Monitoring Well Use: <input type="checkbox"/> Depth <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Chloride Nestled/Multi-Level Well: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No NOTE: If Nestled/Multi-Level Well is proposed, a separate permit is needed for each casing.	Signature of Responsible Professional: <u>Neil Hey</u> Print Name: <u>Neil Hey</u> Civil Engineer Registration No. OR PG 8006 Geologist Registration No.

Estimated Depth of Completed Well: Less than 50 feet 50 to 300 feet Over 300 feet Other: _____

Purpose of Well: Domestic Municipal/Industrial Agricultural Monitoring Cathodic Protection Other: _____

NOTE: Monitoring wells are those constructed for the purpose of obtaining repetitive water level measurements and/or repetitive air samples for analysis.

Well is to be constructed: In a public sidewalk In a public road On public property On private property On District property/easement*
 Within 50 feet of the top of a creek bank or District facility

Within 50 feet of sanitary sewer: Yes No Within 50 feet of any existing well: Yes No
Within 100 feet of a pit privy, septic tank, or leachfield: Yes No Within 150 feet of a cesspool or seepage pit: Yes No

*See General Condition F, page 2. Other wells exist on this property? Yes No If yes, status: Active Inactive Abandoned

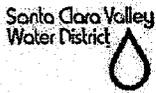
SIGNATURES

I understand and agree that all work associated with this permit is required to be done in accordance with Santa Clara Valley Water District (District) Well Ordinance 90-1, the District Well Standards, and the conditions of this permit (see page 2). I certify that the information given in this permit is correct to the best of my knowledge and that the signature below, whether original, electronic, or photocopied, is authorized and valid, and is affixed with the intent to be enforceable. I also certify that a right of entry/encroachment agreement has been formalized between the well owner and property owner, if parties differ. I also understand that it is my responsibility, as the well owner, to notify the District of any changes in the purpose of this well, from which, is indicated on this application.

Signature of Property Owner/Agent: <u>Donald M. Chuck</u>	Date: <u>5/21/2010</u>	Print Name of Property Owner/Agent: Donald M. Chuck
Signature of Well Owner/Agent: <u>Valerie Harris</u>	Date: <u>5/21/2010</u>	Print Name of Well Owner/Agent: Valerie Harris
Signature of Well Driller/Agent: <u>Wayne Woodward</u>	Date: <u>5/24/2010</u>	Print Name of Driller/Agent: Wayne Woodward
Signature of Consultant/Agent: <u>Neil Hey</u>	Date: <u>5/25/2010</u>	Print Name of Consultant/Agent: Neil Hey

IMPORTANT: A minimum 24-hour notice must be given to Santa Clara Valley Water District Well Inspection Department prior to installing the annular seal. Call (408) 265-2607, ext. 2660. For weekends, holidays, or after-hours, call (408) 265-2607, ext. 2120. Please allow 10 working days to process permit application.

MAY 20 2010



5750 Almaden Expressway
San Jose, CA 95118-3686
(408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 158 (05-07-08)
Page 2 of 2

DISTRICT WELL PERMIT NO.:

Based on information on this application and attachment(s) hereto (if any) and subject to approval noted below, permission is hereby granted to construct (drill) the described well. Permission to start work may be withheld until a field check verifies all statements made on application by permittee and is also subject to the "General" and "Special" Conditions stated below.

SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH APPROVAL (Water Supply Well Only)

NOTE: Department of Environmental Health approval must be granted before this application will be accepted by Santa Clara Valley Water District.

Approved by:

R.E.H.S

- Approved as submitted
- Approved as corrected

Date:

SITE PLAN

A 8 1/2" x 11" paper site plan **must** be attached to this application, including:

1. Location of site features, including major buildings, landscaped areas, tank fields, existing wells, etc.
2. North arrow and scale
3. Location of proposed well with dimensions in feet from well to nearest cross streets.

GENERAL CONDITIONS

- A. District (telephone 408-265-2607, ext. 2660) **must be notified a minimum of one working day before construction of the annular seal.** An authorized District representative must be on site to witness the construction of the annular seal. This requirement may be waived by an authorized District representative. If the District waives the inspection requirement, the District may request the permittee(s) to furnish certification, under penalty of perjury, that the well was constructed in accordance with the District Well Standards and with the permit conditions.
- B. Permittee agrees to construct, operate, and maintain the well according to provisions of the latest District Ordinance and the latest published revisions of District Well Standards to the end that this well will not cause pollution or contamination of groundwater or otherwise jeopardize the health, safety, or welfare of the people of the District.
- C. This permit is valid only for the purpose specified herein. Well construction methods authorized under this permit may not be changed except by written approval of an authorized District representative, and only if the District believes that such a change will result in equal or superior compliance with the District and State Well Standards (e.g., if the District representative finds that site conditions warrant such a change).
- D. This permit is only valid for the Assessor's Parcel No. indicated on it.
- E. This permit may be voided if it contains incorrect information. If the permit is voided after work has begun, the well or boring that was constructed under this permit must be destroyed in accordance with District and State Well Standards.
- F. If any work associated with this permit will take place on District property/easement, an encroachment or construction permit must be granted by the District's Community Projects Review Unit (telephone 408-265-2607, ext. 2589).
- G. Before the well constructed under this permit can be used as a drinking water source, its use must be approved by the regulatory agency with authority over such use (typically the Santa Clara County Department of Environmental Health or the State of California Department of Public Health). A completed Well Inventory Form must also be approved.
- H. If the well constructed under this permit cannot be or is not being used for its intended purpose, permittee is hereby required to destroy the well according to the District Well Standards and under permit from the District. Any test holes drilled under this permit must be destroyed within 24 hours of completion of testing activities. Destruction activities must be completed according to District standards. District must be notified a minimum of 24 hours prior to destruction.
- I. Within 30 days of the completion of the well construction activities, the driller or consultant identified on this permit shall fully complete State of California DWR Form 188 and mail the original to the District's Wells and Water Production Unit.
- J. The permittee(s) shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend, and hold the District, its officers, agents, and employees, free and harmless from any and all expense, cost, and liability in connection with or resulting from the granting or exercise of this permit including, but not limited to, property damage, personal injury, and wrongful death.
- K. Permittees are required to be in full compliance with Cal/OSHA California Labor Code Section 6300.
- L. A current C-57 Water Well Drilling Contractor's License is required for the construction of all wells.
- M. Permittee, permittee's contractors, consultants, or agents shall be responsible to assure that all materials or waters generated during drilling, well construction, well development, pump testing, or other activities associated with this permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on- or off-site storm sewers, dry wells, or waterways. Such materials/waters must not be allowed to move off the property where the work is being completed.
- N. The driller and consultants (if applicable) shall have an active copy of their Worker's Compensation Insurance on file with District.
- O. This permit shall expire if not exercised within 180 calendar days of its approval, unless an extension of the permit expiration date is granted by an authorized District representative.
- P. This permit must be kept on site during all activities associated with it and shall immediately be presented to an authorized District representative upon request.

SPECIAL CONDITIONS

Community Projects Review Unit Approval (if needed):

CPRU Permit No.:

Approved by:

Date:

Please allow 10 working days to process this application.



Drilling Log

Monitoring Well **28OW-23**

Page: 1 of 1

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816
 Surface Elev.* 24.3 ft. Total Hole Depth 40 ft. bgs North* 1975685.7 East* 6110176.1
 Top of Casing* 24.05 ft. Water Level Initial NA Static ▼ 6.6 ft. Diameter 8 in.
 Screen: Dia 2 in. Length 5 ft. Type/Slot Size Sch 40 PVC/0.010 in.
 Casing: Dia 2 in. Length 35 ft. Type Sch 40 PVC
 Fill Material See Comments Rig/Core BK81
 Drill Co. Woodward Drilling Method Hollow Stem Auger
 Driller Amador Arroyo Log By Michael Glas Well Inst. Date 6/15/10 Permit # 10W00263
 Checked By Timothy Ripp License No. CHG 786

COMMENTS
Annular Seal
Cement Grout 0-30'
Plug
Bentonite Chips 30-33'
Filter Pack
#2/16 Sand 33-40'
Screened Interval
Machine Slotted Sch 40 PVC
35-40'

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0		8" Vault				See log 28OW-24 for lithologic information.
0-35'		Sch 40 PVC 0-35'				
0-30'		Cement grout 0-30'				
5						
10						
15						
20						
25						
30		Bentonite Chips 30-33'				
33-40'		#2/16 Sand 33-40'				
35		0.010" Sch 40 PVC 35-40'				
40		Threaded cap with gasket				
45						

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

*CCS Zone 3, NAD83, NAVD88

File Original with DWR

State of California

Well Completion Report

Page 1 of 2

Owner's Well Number 28OW-24

Date Work Began 06/14/2010 Date Work Ended 6/14/2010

Local Permit Agency Santa Clara Valley Water District

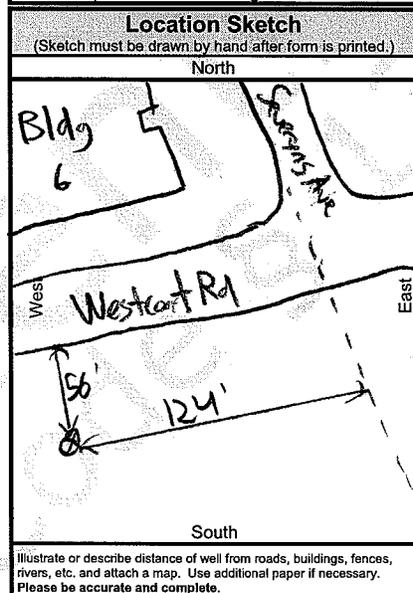
Permit Number 10W00262 Permit Date 6/2/10

DWR Use Only - Do Not Fill In

State Well Number/Site Number			
Latitude		Longitude	
APN/TRS/Other			

Geologic Log		
Orientation <input checked="" type="radio"/> Vertical <input type="radio"/> Horizontal <input type="radio"/> Angle Specify _____		
Drilling Method <u>Hollow Stem Auger</u> Drilling Fluid _____		
Depth from Surface	to	Description
Feet	Feet	Describe material, grain size, color, etc
0	3	Well graded gravel with sand - olive brown
3	7	Clay - dark grayish brown
7	8	Clay - dark olive gray
8	11	Sandy clay - light brownish gray
11	13	Silt - olive gray
13	14.75	Silt - olive brown
14.75	15.5	Silty sand - dark olive brown
15.5	19	Clay - very dark greenish gray
19	20	Sandy clay - very dark greenish gray
20	23	Clay - very dark greenish gray
23	25	Clayey sand - dark olive gray
25	26	Poorly graded sand - olive gray
26	26.5	Well graded sand with gravel - very dark gray
26.5	31	Clay - very dark gray
31	33.5	Clay - dark greenish gray
33.5	35.5	Silt - olive gray
35.5	37	Clay - olive gray
37	37.5	Sandy clay - dark gray
37.5	39	Silt - olive
39	40.5	Clay - olive
40.5	41	Silt - dark greenish gray
41	42	Clay - olive
42	44	Sandy silt - olive gray
44	44.75	Well graded sand with gravel - olive
44.75	46	Silt with gravel - olive brown
46	47	Well graded sand with gravel - olive brown
47	48	Poorly graded sand - very dark grayish brown
48	51	Well graded sand with gravel - very dark grayish brown
51	53.5	Well graded sand with gravel - olive
Total Depth of Boring <u>62</u> Feet		
Total Depth of Completed Well <u>62</u> Feet		

Well Owner	
Name	<u>U.S. Department of the Navy</u>
Mailing Address	<u>1455 Frazee Road, Suite 900</u>
City	<u>San Diego</u> State <u>CA</u> Zip <u>92108</u>
Well Location	
Address	<u>Site 28, Former Naval Air Station Moffett Field</u>
City	<u>Moffett Field</u> County <u>Santa Clara</u>
Latitude	____ N Longitude ____ W
Datum	____ Decimal Lat. ____ Decimal Long. ____
APN Book	____ Page ____ Parcel ____
Township	____ Range ____ Section ____



Activity	
<input checked="" type="radio"/> New Well	
<input type="radio"/> Modification/Repair	
<input type="radio"/> Deepen	
<input type="radio"/> Other _____	
<input type="radio"/> Destroy	
<small>Describe procedures and materials under "GEOLOGIC LOG"</small>	
Planned Uses	
<input type="radio"/> Water Supply	
<input type="checkbox"/> Domestic <input type="checkbox"/> Public	
<input type="checkbox"/> Irrigation <input type="checkbox"/> Industrial	
<input type="radio"/> Cathodic Protection	
<input type="radio"/> Dewatering	
<input type="radio"/> Heat Exchange	
<input type="radio"/> Injection	
<input checked="" type="radio"/> Monitoring	
<input type="radio"/> Remediation	
<input type="radio"/> Sparging	
<input type="radio"/> Test Well	
<input type="radio"/> Vapor Extraction	
<input type="radio"/> Other _____	

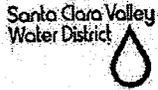
Water Level and Yield of Completed Well	
Depth to first water _____ (Feet below surface)	
Depth to Static _____	
Water Level <u>6.45</u> (Feet) Date Measured <u>06/24/2010</u>	
Estimated Yield * _____ (GPM) Test Type _____	
Test Length _____ (Hours) Total Drawdown _____ (Feet)	
*May not be representative of a well's long term yield.	

Casings						
Depth from Surface	Borehole Diameter	Type	Material	Wall Thickness	Outside Diameter	Screen Type
Feet to Feet	(Inches)			(Inches)	(Inches)	
0	52	8	Blank	PVC Sch. 40	0.154	2.375
52	62	8	Screen	PVC Sch. 40	0.154	2.375

Annular Material			
Depth from Surface	Fill	Description	
Feet to Feet			
0	48	Cement	
48	50	Bentonite	Pellets
50	62	Filter Pack	#2/16 sand

Attachments	
<input checked="" type="checkbox"/> Geologic Log	
<input checked="" type="checkbox"/> Well Construction Diagram	
<input type="checkbox"/> Geophysical Log(s)	
<input type="checkbox"/> Soil/Water Chemical Analyses	
<input type="checkbox"/> Other _____	
<small>Attach additional information, if it exists.</small>	

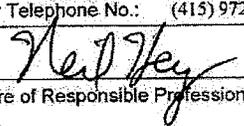
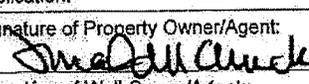
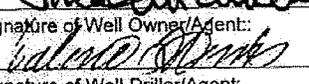
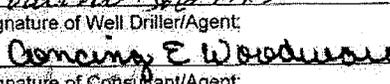
Certification Statement	
I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief	
Name <u>Woodward Drilling Co., INC.</u>	
Person, Firm or Corporation	
<u>550 River Road</u> <u>Rio Vista</u> <u>CA</u> <u>94571</u>	
Address City State Zip	
Signed <u>Ernest Woodward</u> <u>7-22-10</u> <u>710079</u>	
C-57 License Number Date Signed C-57 License Number	



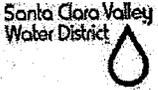
5750 Almaden Expressway
San Jose, CA 95118-3686
(408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 158 (05-07-08)
Page 1 of 2

TO BE COMPLETED BY DISTRICT		
District Permit No.: <u>10W00262</u>	Date issued: <u>6/2/10</u>	Well Registration No.:
Geologic Setting: <u>1</u>	Expiration Date: <u>12/2/10</u>	Driller's Log No.: <u>E0110895</u>
TO BE COMPLETED BY OWNER AND DRILLER		
Well Owner: US Department of the Navy - BRAC	Property Owner: National Aeronautics & Space Administration	Name of Business at Well Site: National Aeronautics & Space Administration
Well Owner's Mailing Address: 1455 Frazee Road, Suite 900 City, State, Zip San Diego, CA 92108	Property Owner's Mailing Address: NASA Ames Research Center, Building 237, Room 115 City, State, Zip Moffett Field, CA 94035	Address of Well Site: IR Site 28, Former Naval Air Station Moffett Field City, State, Zip Moffett Field, CA 94035
Telephone No. & Contact Name: Valerie Harris (619) 532-0981	Telephone No. & Contact Name: Donald Chuck (650) 604-0237	Telephone No.: None
Owner's/Consultant's Well No.: <u>28OW-24</u>	Assessor's Parcel No. of Well Site: Book <u>116</u> Page <u>18</u> Parcel <u>012</u>	
Consultant (Company): Shaw Environmental, Inc.	Drilling Company: Woodward Drilling	
Address: 4005 Port Chicago Highway City, State, Zip Concord, CA 94520-1120	Address: P.O. Box 336, 550 River Road City, State, Zip Rio Vista, CA 94571	
Telephone No.: (925) 288-9898	Telephone No.: (707) 374-4300	C-57 License No.: 710079
<input type="checkbox"/> Check if address or phone number has changed	<input type="checkbox"/> Check if address or phone number has changed	
THIS SECTION TO BE COMPLETED FOR ALL MONITORING WELLS OR EXTRACTION/RECOVERY WELLS		
Case Name/No.:	Caseworker Name: <u>Alana Lee</u>	
Oversight Agency: <u>USEPA Region IX</u>	Caseworker Telephone No.: <u>(415) 972-3141</u>	
Type of Monitoring Device: <input checked="" type="checkbox"/> Groundwater <input type="checkbox"/> Vadose	Signature of Responsible Professional  Neil Hey Print Name PG 8006 Civil Engineer Registration No. OR Geologist Registration No.	
Type of Extraction Device: <input type="checkbox"/> Groundwater <input type="checkbox"/> Vadose		
Monitoring Well Use: <input type="checkbox"/> Depth <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Chloride		
Nested/Multi-Level Well: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
NOTE: If Nested/Multi-Level Well is proposed, a separate permit is needed for each casing.		
Estimated Depth of Completed Well: <input type="checkbox"/> Less than 50 feet <input checked="" type="checkbox"/> 50 to 300 feet <input type="checkbox"/> Over 300 feet <input type="checkbox"/> Other: _____		
Purpose of Well: <input type="checkbox"/> Domestic <input type="checkbox"/> Municipal/Industrial <input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Monitoring <input type="checkbox"/> Cathodic Protection <input type="checkbox"/> Other: _____		
NOTE: Monitoring wells are those constructed for the purpose of obtaining repetitive water level measurements and/or repetitive air samples for analysis.		
Well is to be constructed: <input type="checkbox"/> In a public sidewalk <input type="checkbox"/> In a public road <input checked="" type="checkbox"/> On public property <input type="checkbox"/> On private property <input type="checkbox"/> On District property/easement* <input type="checkbox"/> Within 50 feet of the top of a creek bank or District facility		
Within 50 feet of sanitary sewer: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Within 50 feet of any existing well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Within 100 feet of a pit privy, septic tank, or leachfield: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Within 150 feet of a cesspool or seepage pit: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
*See General Condition F, page 2.	Other wells exist on this property? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No. If yes, status: <input checked="" type="checkbox"/> Active <input type="checkbox"/> Inactive <input type="checkbox"/> Abandoned	
SIGNATURES		
I understand and agree that all work associated with this permit is required to be done in accordance with Santa Clara Valley Water District (District) Well Ordinance 90-1, the District Well Standards, and the conditions of this permit (see page 2). I certify that the information given in this permit is correct to the best of my knowledge and that the signature below, whether original, electronic, or photocopied, is authorized and valid, and is affixed with the intent to be enforceable. I also certify that a right of entry/encroachment agreement has been formalized between the well owner and property owner, if parties differ. I also understand that it is my responsibility, as the well owner, to notify the District of any changes in the purpose of this well, from which, is indicated on this application.		
Signature of Property Owner/Agent: 	Date: <u>5/21/2010</u>	Print Name of Property Owner/Agent: Donald M. Chuck
Signature of Well Owner/Agent: 	Date: <u>5/21/2010</u>	Print Name of Well Owner/Agent: Valerie Harris
Signature of Well Driller/Agent: 	Date: <u>5/24/2010</u>	Print Name of Driller/Agent: Wayne Woodward
Signature of Consultant/Agent: 	Date: <u>5/25/2010</u>	Print Name of Consultant/Agent: Neil Hey
IMPORTANT: A minimum 24-hour notice must be given to Santa Clara Valley Water District Well Inspection Department prior to installing the annular seal. Call (408) 265-2607, ext. 2660. For weekends, holidays, or after-hours, call (408) 265-2607, ext. 2120. Please allow 10 working days to process permit application.		

MAY 25 2010



5750 Almaden Expressway
San Jose, CA 95118-3686
(408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 158 (05-07-08)
Page 2 of 2

DISTRICT WELL PERMIT NO.: _____

Based on information on this application and attachment(s) hereto (if any) and subject to approval noted below, permission is hereby granted to construct (drill) the described well. Permission to start work may be withheld until a field check verifies all statements made on application by permittee and is also subject to the "General" and "Special" Conditions stated below.

SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH APPROVAL (Water Supply Well Only)

NOTE: Department of Environmental Health approval must be granted before this application will be accepted by Santa Clara Valley Water District.

Approved by:	R.E.H.S	<input type="checkbox"/> Approved as submitted
		<input type="checkbox"/> Approved as corrected
		Date:

SITE PLAN

- A 8 1/2" x 11" paper site plan **must** be attached to this application, including:
1. Location of site features, including major buildings, landscaped areas, tank fields, existing wells, etc.
 2. North arrow and scale
 3. Location of proposed well with dimensions in feet from well to nearest cross streets.

GENERAL CONDITIONS

- A. District (telephone 408-265-2607, ext. 2660) **must be notified a minimum of one working day before construction of the annular seal.** An authorized District representative must be on site to witness the construction of the annular seal. This requirement may be waived by an authorized District representative. If the District waives the inspection requirement, the District may request the permittee(s) to furnish certification, under penalty of perjury, that the well was constructed in accordance with the District Well Standards and with the permit conditions.
- B. Permittee agrees to construct, operate, and maintain the well according to provisions of the latest District Ordinance and the latest published revisions of District Well Standards to the end that this well will not cause pollution or contamination of groundwater or otherwise jeopardize the health, safety, or welfare of the people of the District.
- C. This permit is valid only for the purpose specified herein. Well construction methods authorized under this permit may not be changed except by written approval of an authorized District representative, and only if the District believes that such a change will result in equal or superior compliance with the District and State Well Standards (e.g., if the District representative finds that site conditions warrant such a change).
- D. This permit is only valid for the Assessor's Parcel No. indicated on it.
- E. This permit may be voided if it contains incorrect information. If the permit is voided after work has begun, the well or boring that was constructed under this permit must be destroyed in accordance with District and State Well Standards.
- F. If any work associated with this permit will take place on District property/easement, an encroachment or construction permit must be granted by the District's Community Projects Review Unit (telephone 408-265-2607, ext. 2589).
- G. Before the well constructed under this permit can be used as a drinking water source, its use must be approved by the regulatory agency with authority over such use (typically the Santa Clara County Department of Environmental Health or the State of California Department of Public Health). A completed Well Inventory Form must also be approved.
- H. If the well constructed under this permit cannot be or is not being used for its intended purpose, permittee is hereby required to destroy the well according to the District Well Standards and under permit from the District. Any test holes drilled under this permit must be destroyed within 24 hours of completion of testing activities. Destruction activities must be completed according to District standards. District must be notified a minimum of 24 hours prior to destruction.
- I. Within 30 days of the completion of the well construction activities, the driller or consultant identified on this permit shall fully complete State of California DWR Form 188 and mail the original to the District's Wells and Water Production Unit.
- J. The permittee(s) shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend, and hold the District, its officers, agents, and employees, free and harmless from any and all expense, cost, and liability in connection with or resulting from the granting or exercise of this permit including, but not limited to, property damage, personal injury, and wrongful death.
- K. Permittees are required to be in full compliance with Cal/OSHA California Labor Code Section 6300.
- L. A current C-57 Water Well Drilling Contractor's License is required for the construction of all wells.
- M. Permittee, permittee's contractors, consultants, or agents shall be responsible to assure that all materials or waters generated during drilling, well construction, well development, pump testing, or other activities associated with this permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on- or off-site storm sewers, dry wells, or waterways. Such materials/waters must not be allowed to move off the property where the work is being completed.
- N. The driller and consultants (if applicable) shall have an active copy of their Worker's Compensation Insurance on file with District.
- O. This permit shall expire if not exercised within 180 calendar days of its approval, unless an extension of the permit expiration date is granted by an authorized District representative.
- P. This permit must be kept on site during all activities associated with it and shall immediately be presented to an authorized District representative upon request.

SPECIAL CONDITIONS

Community Projects Review Unit Approval (if needed):	CPRU Permit No.:
Approved by:	Date:

Please allow 10 working days to process this application.



Drilling Log

Monitoring Well **28OW-24**

Page: 1 of 4

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816
 Surface Elev.* 24.3 ft. Total Hole Depth 62 ft. bgs North* 1975686.3 East* 6110174.4
 Top of Casing* 24.10 ft. Water Level Initial NA Static ▼ 6.7 ft. Diameter 8 in.
 Screen: Dia 2 in. Length 10 ft. Type/Slot Size Sch 40 PVC/0.010 in.
 Casing: Dia 2 in. Length 52 ft. Type Sch 40 PVC
 Fill Material See Comments Rig/Core BK81
 Drill Co. Woodward Drilling Method Hollow Stem Auger
 Driller Amador Arroyo Log By Michael Glas Well Inst. Date 6/14/10 Permit # 10W00262
 Checked By Timothy Ripp License No. CHG 786

COMMENTS
Annular Seal
Cement Grout 0-48'
Plug
Bentonite Chips 48-50'
Filter Pack
#2/16 Sand 50-62'
Screened Interval
Machine Slotted Sch 40 PVC
52-62'
 Note: grout placed 6/15/10.

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0	8" Vault					Hand-augered to 5'; landscaping gravel at surface
0 - 2	Sch 40 PVC 0-52'				GW	WELL GRADED GRAVEL WITH SAND, olive brown (2.5Y 4/3), 80% coarse to fine gravel, 15% coarse to fine sand, 5% fines, dry, angular
2 - 4	Cement grout 0-48'				CL	CLAY, dark grayish brown (2.5Y 4/2), 60% clay, 30% silt, 10% medium to fine sand, dry, firm, medium plasticity
4 - 8			100%		CH	CLAY, dark olive gray (5Y 3/2), moist, firm, plastic
8 - 10			100%		CH	CLAY WITH SAND, light brownish gray (2.5Y 6/2), 85% clay, 15% medium to fine sand, damp, soft, plastic
10 - 12			50%		MH	SILT, olive gray (5Y 4/2), 50% silt, 40% clay, trace fine sand, damp, soft, plastic
12 - 14			100%		ML	SILT, olive brown (2.5Y 4/3), 60% silt, 40% clay, moist, firm, non-plastic, iron-oxide staining

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

Continued Next Page

*CCS Zone 3, NAD83, NAVD88



Drilling Log

Monitoring Well **28OW-24**

Page: 2 of 4

Project Site IR28 Treatability Study Owner U.S. Navy

Location Former NAS Moffett Field, CA Proj. No. 133816

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
16			100%		SM	SILTY SAND, dark olive brown (2.5Y 3/3), 85% fine sand, 15% silt, damp, medium dense, subrounded Wet.
18			100%		CH	CLAY, very dark greenish gray (GLE Y1 3/1), moist, soft, plastic
20			100%		CL	CLAY WITH SAND, very dark greenish gray (GLE Y1 3/1), 60% clay, 20% silt, 20% medium to fine sand, wet, firm, non-plastic
22			75%		CH	CLAY, very dark greenish gray (GLE Y1 3/1), 70% clay, 30% silt, moist, firm, plastic Damp, soft, trace coarse sand.
24			100%		SC	CLAYEY SAND, dark olive gray (5Y 3/2), 60% medium to fine sand, 40% clay, trace fine gravel to coarse sand, wet, medium dense Sand increases to 80%, clay decreases to 20%.
26			100%		SP	POORLY GRADED SAND, olive gray (5Y 4/2), medium to fine sand, wet, medium dense, subangular to subrounded
28			100%		SW	WELL GRADED SAND WITH GRAVEL, very dark gray (5Y 3/1), 80% coarse to fine sand, 20% fine gravel, wet, loose, subangular CLAY, very dark gray (5Y 3/1), moist, firm, plastic
30			100%		CH	Dark greenish gray (GLE Y1 4/1), iron-oxide stained.
32			100%		CH	Trace sand.
34			100%		MH	SILT, olive gray (5Y 4/2), 80% silt, 20% clay, hard, plastic

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

Continued Next Page



Drilling Log

Monitoring Well **28OW-24**

Page: 3 of 4

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
36			100%	MH	MH	CLAY, olive gray (5Y 4/2), trace sand, moist, hard, plastic
38			100%	CH	CH	SANDY CLAY, dark gray (5Y 4/1), 80% clay, 20% fine sand, moist, firm, plastic
40			100%	MH	MH	SILT, olive (5Y 4/3), 60% silt, 40% clay, moist, soft, plastic
42			100%	CH	CH	CLAY, olive (5Y 4/3), damp, soft, plastic, iron-oxide stained
44			100%	MH	MH	5% fine gravel to coarse sand.
46			100%	CH	CH	SILT, dark greenish gray (GLE Y 4/1), 80% silt, 20% clay, firm, moist, plastic
48			100%	MH	MH	CLAY, olive (5Y 4/3), moist, soft, trace, sand
50		Bentonite Chips 48-50'	0%	MH	MH	SILT WITH SAND, olive gray (5Y 4/2), 80% silt, 20% fine sand, damp, soft, iron-oxide staining
52		#2/16 Sand 50-62'	50%	SW	SW	WELL GRADED SAND WITH GRAVEL, olive (5Y 4/4), 85% coarse to fine sand, 15% fine gravel, wet, loose, rounded to subrounded
				MH	MH	SILT WITH GRAVEL, olive brown (2.5Y 4/4), 85% silt, 15% fine gravel, trace sand, damp, firm, plastic
				SW	SW	WELL GRADED SAND WITH GRAVEL, olive brown (2.5Y 4/4), 85% coarse to fine sand, 15% fine gravel, wet, loose, rounded
				SP	SP	POORLY GRADED SAND, very dark grayish brown (10YR 3/2), medium sand, wet, loose, subrounded
				SW	SW	WELL GRADED SAND WITH GRAVEL, very dark grayish brown (10YR 3/2), 85% coarse to fine sand, 15% fine gravel, wet, medium dense, rounded to subrounded
				SW	SW	Olive (5Y 4/4).

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10

Continued Next Page



Drilling Log

Monitoring Well **28OW-24**

Page: 4 of 4

Project Site IR28 Treatability Study Owner U.S. Navy
 Location Former NAS Moffett Field, CA Proj. No. 133816

Depth (ft.)	Well Completion	Comments/Sample ID S = soil sample V = soil vapor sample W = groundwater sample	Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
54		0.010" Sch 40 PVC 52-62' Threaded cap with gasket	100%		CH	CLAY, olive brown (2.5Y 4/4), damp, firm, plastic, trace sand
56			100%		SW	WELL GRADED SAND, dark olive gray (5Y 3/2), wet, loose, subrounded
58			75%		CH	CLAY, olive brown (2.5Y 4/4), trace sand, damp, soft, plastic
60			50%		SP	POORLY GRADED SAND, olive (5Y 4/3), medium sand, wet, loose, subrounded
62			100%		SM	SILTY SAND, olive brown (2.5Y 4/4), 70% coarse to fine sand, 30% silt, wet, dense, subrounded
			100%		SW	WELL GRADED SAND, dark grayish brown (2.5Y 4/2), wet, loose, rounded
64						Boring terminated at 62 feet.
66						
68						
70						
72						

MOFFETT FIELD Rev: 9/13/10 SITE28.GPJ SHAW.GDT 9/21/10