July 12, 2016

Mr. Dinh Vo
Remediation Project Manager
NASA/John F. Kennedy Space Center
Mail Code: TA-A4B
Kennedy Space Center, Florida 32899

Subject: **Well Abandonments at Various Sites**
John F. Kennedy Space Center, Florida
Contract No. NNK12CA14B-NNK14CA26T

Dear Mr. Vo:

Jacobs Engineering Group Inc. and CORE Engineering & Construction, Inc. (Jacobs-CORE) are pleased to submit this letter report documenting well abandonment activities at various sites located at John F. Kennedy Space Center (KSC), Florida. The well abandonment activities documented in this report were conducted at the Orbiter Processing Facility 1 & 2 (OPF-1&2), OPF-3, Roads and Grounds Facility (RDG), Solid Rocket Booster (SRB) Processing Facility, and Hypergol Support Building (HSB).

1.0 BACKGROUND

On November 10, 2015, the National Aeronautics and Space Administration (NASA) Remediation Project Manager (RPM) assigned Jacobs-CORE with this second set of sites to complete monitoring well abandonment activities under Contract No. NNK12CA14B, Task Order No. 06. The sites and initial tasking included 51 wells:

- RDG: Abandon three monitoring wells (MW0001, MW0002, and MW0003).
- OPF-1&2: Abandon 18 monitoring wells (IW-1S, IW-1I, IW-2S, IW-2I, IW-3S, IW-3I, IW-4S, IW-4I, IW-5S, IW-5I, IW-6S, IW-7S, IW-7I, PZ-1S, PZ-2S, PZ-3S, PZ-4S, and PZ-5S).
- OPF-3: Abandon three monitoring wells (IW1S, IW01D, and IW02D).
- SRB: Abandon one monitoring well (K6446-IW-1S)
- HSB: Abandon nine monitoring wells (MW-1S, MW-3S, MW-3I, MW-4S, IW-4I, MW-5S, MW-6S, PZ-01, and PZ-02).
- Contractor Road Sandblast Area (CRSA): Abandon 11 monitoring wells (IW-1S, IW-2S, IW-3S, IW-3M, IW-4S, IW-5S, IW-6S, IW-7S, IW-8S, IW-9S, and IW-10S).
- Oak Hill Grove (OHG): Abandon two monitoring wells (existing 4-inch well and IW-1S).
- Schwartz Road Sandblast Area (SRSA) : Abandon four monitoring wells (MW-1S, MW-2S, MW-3S, and MW-4S).

Project expectations were discussed at the time of the assignment and the abandonment method for the wells was agreed to be "abandon-in-place" with removal of aboveground completions to restore each area to match existing surroundings.

An addendum (Addendum No. 5) to the Site-Specific Safety and Health Plan (SSSHP) for Contract No. NNK12CA14B was issued by Jacobs-CORE in November 2014 to address work to be performed under Task Order No. 06. The SSSHP addendum was coordinated with the NASA RPM and was accepted by NASA Safety and Environmental Health in November 2014. Attachment A for Addendum 5 was updated to address this group of wells specifically. The updated Attachment A was submitted to NASA RPM on December 17, 2015.

2.0 ABANDONMENT ACTIVITIES

The following sub-sections detail monitoring well abandonment activities completed at the various sites.

2.1 Pre-Abandonment Activities

Site reconnaissance visits were completed by Jacobs-CORE personnel on November 27, 2015 and on January 5, 2016 to locate and inspect monitoring wells identified for abandonment. A Global Positioning System (GPS) unit, metal detector, and hand tools were used during the reconnaissance activities to assist in locating wells. Of the 51 wells initially tasked for abandonment, a total of 23 wells were confirmed for abandonment. The 23 wells were located at five (OPF-1&2, OPF-3, RDG, SRB, and HSB) of the eight sites. Wells not confirmed were either:

- not able to be located, based upon site logistics such as piles of debris;
- previously abandoned during other site activities, such as remediation, demolition or construction; or
- were located but had already been abandoned.

A variety of polyvinyl chloride (PVC) wells with documented depths ranging between 11.6 to 51.45 feet below land surface (bls) and with diameters ranging from 1-inch to 2-inches were abandoned. A summary table, with information pertaining to the wells abandoned and wells not found and/or not abandoned, is provided as **Table 1.**

Following site reconnaissance, six well abandonment permits were issued by the Florida Department of Health – Brevard County (delegated authority from St. Johns River Water Management District) on January 21, 2016; Permit Numbers: 42964 (HSB), 42966 (OPF-1&2), 42967 (OPF-1&2), 42969 (OPF-3), 42970 (RDG), and 42971 (SRB). Each permit allowed for the inclusion of multiple wells within the scope of abandonment. Application and attainment of the permits was completed by a CORE staff member who is a Florida-licensed Water Well Contractor (License Number 2633).

2.2 Abandonment Activities

Well abandonment activities were completed at the five sites on January 29, February 1, and March 9, 2016. Abandonment activities were completed by Jacobs-CORE under the direction

and supervision of the CORE Florida-licensed Water Well Contractor. A total of 23 wells were abandoned-in-place with grout, and completions removed.

The following sub-sections detail the stages of abandonment activities.

2.2.1 Field Work

Prior to each day of field work, daily "tailgate meetings" were held to discuss the day's activities, review health and safety concerns and protocol, and confirm communication procedures. The dig status and the day's forecasted weather and weather warning protocols were also discussed during these meetings. All applicable project and site-specific documentation (permits, SSSHP, maps, etc.) was kept on-site throughout the duration of abandonment activities.

The first step of the abandonment process involved collecting depth-to-bottom and well diameter measurements from each well scoped for abandonment in order to calculate each well's annular volume. Water and grout (neat cement) were then brought on-site and mixed beside each well's location to appropriate density specifications. The grout mixture was gravity-fed into each well through a tremie pipe positioned near the bottom of the well. The tremie pipe was retracted when the grout mixture discharged out the top of the well at the same density as it was being added.

After allowing the grout to set, each well was inspected to determine if any settling occurred, and additional grout was added as necessary. Once the grouting process was complete, aboveground casings, risers, well vaults, and concrete pads were removed. Once aboveground completions were removed, each well location was grouted or graded to match existing surroundings. Completions on in asphalt were grouted to match a traffic surface; completions on natural surface were graded with grass seed spread to restore the site.

In total, 23 wells were abandoned at the sites, which encompassed 489.06 linear feet of abandonment. A summary table, with information pertaining to the wells abandoned, is provided as **Table 1**. Field notes from well abandonment activities along with abandonment permits, which includes site figures and coordinates, are provided in **Appendix A**.

2.2.2 Disposal

Material disposal was completed after all well abandonment activities were complete. Under direction of the NASA RPM, debris (concrete, PVC casing, etc.) from the abandonment were taken to the permitted KSC construction debris landfill located on Schwartz Road.

2.2.3 Well Completion Reports

Well completion reports were submitted back to the Florida Department of Health – Brevard County for each issued permit. The completion reports were completed and relinquished by the CORE Florida-licensed Water Well Contractor. Copies of the completed well abandonment permits are provided in **Appendix A.**

3.0 SUMMARY

Between January 29 and March 9, 2016, a total of 23 monitoring wells were properly abandoned-in-place at five KSC sites (OPF-1&2, OPF-3, RDG, SRB, and HSB). The total abandonment encompassed 489.06 linear feet. The wells abandoned were constructed

of PVC with diameters ranging from 1-inch to 2-inches. The shallowest well abandoned was measured to be 11.6 ft bls (OPF) and the deepest well abandoned was documented to be 51.45 feet bls (HSB). All aboveground completions were removed and each area was re-graded and/or grouted to surface to match existing surroundings. All materials (concrete pads, well casings, etc.) were disposed of accordingly.

If you have any questions or need additional information, please feel free to contact us.

Sincerely,

Deda Johansen
Program Manager

Harlan Faircloth, P.E.
Principal Engineer

cc: John Armstrong, FDEP

Jacobs Engineering Group, Inc.
7001 N. Atlantic Avenue, Suite 202
Cape Canaveral, Florida 32920
Phone: (321) 783-7033
www.jacobs.com

CORE Engineering & Construction, Inc.
1020 Railroad Avenue
Winter Park, Florida 32789
Phone: (407) 622-2673
www.core-encon.com

Table 1
Well Abandonment Summary

SITE	WELL ID. #	Depth (feet)	Diameter (inches)	COMMENTS
ABANDONED WELLS				
RDG	MW0001 (IW-1S)	15	2	abandoned
RDG	MW0002 (IW2S)	15	2	abandoned
RDG	MW0003 (IW-3S)	15	2	abandoned
SRB	K6446-IW-1S	12.8		abandoned
OPF-3	IW-1S	15.25	2	abandoned
OPF-3	IW-01D	46.9	2	abandoned
OPF-3	iw-02D	46.8	2	abandoned
HSB	MW-4I	51.45	2	abandoned
HSB	PZ-01	15	1	abandoned
HSB	PZ-02	15	1	abandoned
OPF	PZ-2S	14.5	2	abandoned
OPF	IW-1S	11.9	2	abandoned
OPF	IW-1I	29.2	2	abandoned
OPF	IW-2S	10.82	2	abandoned
OPF	IW-2I	28.91	2	abandoned
OPF	IW-3S	11.7	2	abandoned
OPF	IW-3I	28.9	2	abandoned
OPF	IW-4S	12.3	2	abandoned
OPF	IW-5S	11.6	2	abandoned
OPF	IW-5I	28.92	2	abandoned
OPF	IW-6S	10.91	2	abandoned
OPF	IW-7S	11.6	2	abandoned
OPF	IW-7I	29.6	2	abandoned
	total	489.06		
WELLS NOT FOUND / NOT ABANDONED				
SRSA	IW-1S	12		Could not locate any wells on this facility. To much metal debris for metal detector, also big piles of debris located where GPS indicates wells are located. Wells could exist but covered and not identifiable or accessable due to debris
SRSA	IW-2S	12		
SRSA	IW-3S	12		
SRSA	IW-4S	12		

Table 1
Well Abandonment Summary

OPF	PZ-1S	12	2	
OPF	PZ-3S	12	2	Could not locate these "PZ" wells. Assuming they were installed without protective covers, the 1-inch
OPF	PZ-4s	12	2	stickups may not have survived years of mowing
OPF	PZ-5S	12	2	
OPF	IW-4I	30	2	Was not located. Was not paired with IW-4S
OHG	IW-1S	15	2	Appears this site has been remediated and resodded. Could not locate well with metal detector
OHG	Existing well	42	4	Well found however was filled with grout/previously abandoned. Casing remains, plan to remove during next round of abandonment
HSB	MW-1S	15.5	2	
HSB	MW-3I	32	2	
HSB	MW-3S	17	2	This Facility has been demolished. These wells could not be located. They were likely removed during
HSB	MW-4S	18.5	2	demolishion
HSB	MW-5S	20.5	2	
HSB	MW-6S	20.5	2	
CRSA	IW-1S	12		Opened well and well cap states "20I". Depth to bottom measurement of this well is 49.42 ft, and hence not IW-1S, which should be a 12 ft well. This well is in location where IW-1S should be.
CRSA	IW-3M	50	2	well was previously abandoned. Completion still exists, plan to remove during next round of abandonment
CRSA	IW-6S	12		well was previously abandoned. Completion still exists, plan to remove during next round of abandonment
CRSA	IW-9S	12		Depth to bottom measurement of this well is 49 ft, and hence not IW-9S, which should be a 12 ft well. This well is in location where IW-9S should be.
CRSA	IW-2S	12		
CRSA	IW-3S	12		
CRSA	IW-4S	12		Could not locate these wells with GPS coordinates, metal detector, or shovel. IW-4S could have possibly been
CRSA	IW-5S	12		removed or destroyed when RR track spur was removed, all others just could not find, found many other
CRSA	IW-7S	12		metal parts during recon of site
CRSA	IW-8S	12		
CRSA	IW-10s	12		

APPENDIX A

Abandonment Permits, Figures, and Field Notes

FLORIDA DEPARTMENT OF HEALTH – BREVARD COUNTY
Environmental Health Services
2725 Judge Fran Jamieson Way, Suite A116
Viera, Florida 32940-6605
PHONE: 321/633-2100 FAX: 321/633-2151
www.BrevardEH.com

WELL CONSTRUCTION PERMIT

Permit Number: 42966
Purpose: ABANDONMENT
Subdivision/Lot#: K6-6462 (6 WELLS)
Well Site Address: ORBITER PROCESS BUILDING
KENNEDY SPACE CENTER FL

Application Date: 1/20/2016
Expiration Date: 1/20/2017
Permit Fee: $35.00

Well Contractor: Raymond Robinson WWC #: 2633 **WWC Phone #:** 407-467-7857

Owner Name: UNITED STATES GOVERNMENT
Owner Address: P O BOX 366
TITUSVILLE FL 32791- **Suite/Unit#:**
Owner Phone #:

Issuance of this permit does not relieve the well owner of meeting the permit requirements of county, municipal, or other legally constituted authorities. The well contractor must meet the well set-back per Chapter 62-532, F.A.C., Table 1. Any variance from these setbacks or change to site plan must be approved in advance by Environmental Health Services.

Inspection Details:

Circle One: OSTDS or Sewer

Foundation Setback: _____'

- ☐ Site Plan
- ☐ Well ID Tag
- ☐ Casing Height _____"
- ☐ Grout Depth _____"
- ☐ Completion Report ____/____/____
- ☐ OSTDS Site Setback _____'
- ☐ OSTDS AP Setback _____'
- ☐ OSTDS/Well - Final ____/____/____
- ☐ Bacteriological Result ____/____/____
- ☐ Nitrate Result ____/____/____
- ☐ Variance Application Date ____/____/____
- ☐ Variance Approval Date ____/____/____
- ☐ Warning Notice Sent ____/____/____
- ☐ Compliance Letter Sent ____/____/____
- ☐ Other: _____

Notes:

	Original Site Visit	Construction Date	Re-inspection Date	Final Date
Date				
Initials				

THIS PERMIT IS ISSUED BY THE AUTHORIZED REPRESENTATIVE OF THE FLORIDA DEPARTMENT OF HEALTH UNDER THE AUTHORITY OF CHAPTER 381, 402, 403, 513, 514, AND 489 PARTIII, FLORIDA STATUTES, FLORIDA ADMINISTRATIVE CODE AND BREVARD COUNTY CODE SECTION 46-36 THRU 46-72 ARTICLE II ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS AND WATER WELL PERMITTING. THIS PERMIT IS SUBJECT TO SUSPENSION OR REVOCATION WHEN IT IS DETERMINED BY THE DEPARTMENT THAT THE OPERATION, CONDITIONS AND/OR DEPARTMENT STANDARDS ARE NOT BEING MET.

DISPLAY IN A CONSPICUOUS PLACE – THIS PERMIT IS NON-TRANSFERABLE

Application

STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

☐ Southwest
☐ Northwest
☑ St. Johns River
☐ South Florida
☐ Suwannee River
☐ DEP
☑ Delegated Authority (If Applicable) Brevard - FL DOH

PAID JAN 19 2016

PLEASE FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

The water well contractor is responsible for completing this form and forwarding the permit application to the appropriate delegated authority where applicable.

Permit No. 42966
Florida Unique ID
Permit Stipulations Required (See Attached)
62-524 Quad No. ______ Delineation No. ______
CUP/WUP Application No. ______
ABOVE THIS LINE - FOR OFFICIAL USE ONLY

1. NASA John F. Kennedy Space Center — Kennedy Space Center FL
*Owner: Legal Name if Corporation / *Address / *City / *State / ZIP / *Telephone Number

2. ORbiter Processing Facility K6-6462 Kennedy Space Center FL
*Well Location - Address, Road Name or Number, City

3. 22-36-32-00-00-00
*Parcel ID No. (PIN) or Alternate Key (Circle One) — 00 Lot — 00 Block — 00 Unit

4. 22 *Section or Land Grant — 22 *Township — 36 *Range — *County — Subdivision

5. Raymond Robinson *Water Well Contractor — 2633 *License Number — 407-467-7857 *Telephone Number — Check if 62-524: ___ Yes ___ No — rrobinson@core-enecon.com E-mail Address

6. 1020 Railroad Ave *Water Well Contractor's Address — Winter Park City — FL State — 32789 ZIP

7. *Type of Work: ___ Construction ___ Repair ___ Modification ✓ Abandonment — No Longer Needed *Reason for Repair, Modification, or Abandonment

8. *Number of Proposed Wells 6

9. *Specify Intended Use(s) of Well(s):

___ Domestic
___ Bottled Water Supply
___ Landscape Irrigation
___ Recreation Area Irrigation
___ Agricultural Irrigation
___ Livestock
___ Site Investigation
✓ Monitoring
___ Public Water Supply (Limited Use/DOH)
___ Public Water Supply (Community or Non-Community/DEP)
___ Nursery Irrigation
___ Commercial/Industrial
___ Golf Course Irrigation
___ Test
___ Earth-Coupled Geothermal
___ HVAC Supply
___ HVAC Return
___ Class I Injection

Class V Injection: ___ Recharge ___ Commercial/Industrial Disposal ___ Aquifer Storage and Recovery ___ Drainage

Remediation: ___ Recovery ___ Air Sparge ___ Other (Describe)

___ Other (Describe) ______ (Note: Not all types of wells are permitted by a given permitting authority)

RECEIVED JAN 19 2016 BY: OCM — Official Use Only

10. *Distance from Septic System if ≤200 ft. UK 11. Facility Description Orbiter Processing Fac 12. Estimated Start Date 1-25-16

13. Estimated Well Depth 30 ft *Estimated Casing Depth 25 ft *Primary Casing Diameter 2 in. Open Hole: From ___ To ___ ft.

14. Estimated Screen Interval: From 25 To 30 ft.

15. *Primary Casing Material: ___ Black Steel ___ Galvanized ✓ PVC ___ Stainless Steel ___ Not Cased ___ Other

16. Secondary Casing: ___ Telescope Casing ___ Liner ___ Surface Casing Diameter ___ in.

17. Secondary Casing Material: ___ Black Steel ___ Galvanized ___ PVC ___ Stainless Steel ___ Other

18. *Method of Construction, Repair, or Abandonment: ___ Auger ___ Cable Tool ___ Jetted ___ Rotary ___ Sonic ___ Combination (Two or More Methods) ___ Hand Driven (Well Point, Sand Point) ___ Hydraulic Point (Direct Push) ___ Horizontal Drilling ✓ Plugged by Approved Method ✓ Other (Describe) Trimmie Grout

19. Proposed Grouting Interval for the Primary, Secondary, and Additional Casing:

From	To	Seal Material			
0	30	___ Bentonite	✓ Neat Cement	Other	
		___ Bentonite	___ Neat Cement	Other	
		___ Bentonite	___ Neat Cement	Other	
		___ Bentonite	___ Neat Cement	Other	

20. Indicate total number of existing wells on site UK List number of existing unused wells on site UK

21. *Is this well or any existing well or water withdrawal on the owner's contiguous property covered under a Consumptive/Water Use Permit (CUP/WUP) or CUP/WUP Application? ___ Yes ___ No If yes, complete the following: CUP/WUP No. ______ District Well ID No. ______

22. Latitude See Attached List Longitude ______

23. Data Obtained From: ✓ GPS ___ Map ___ Survey   Datum: ___ NAD 27 ✓ NAD 83 ___ WGS 84

I hereby certify that I will comply with the applicable rules of Title 40, Florida Administrative Code, and that a water use permit or artificial recharge permit, if needed, has been or will be obtained prior to commencement of well construction. I further certify that all information provided in this application is accurate and that I will obtain necessary approval from other federal, state, or local governments, if applicable. I agree to provide a well completion report to the District within 30 days after completion of the construction, repair, modification, or abandonment authorized by this permit, or the permit expiration, whichever occurs first.

I certify that I am the owner of the property, that the information provided is accurate, and that I am aware of my responsibilities under Chapter 373, Florida Statutes, to maintain or properly abandon this well, or I certify that I am the agent for the owner, that the information provided is accurate, and that I have informed the owner of their responsibilities as stated above. Owner consents to allowing personnel of the WMD or Delegated Authority access to the well site during the construction, repair, modification, or abandonment authorized by this permit.

[signature] *Signature of Contractor — 2633 *License No. — [signature] *Signature of Owner or Agent — 1-18-16 *Date

BELOW THIS LINE - FOR OFFICIAL USE ONLY

Approval Granted By Jill Love   Issue Date 1/21/16   Expiration Date 1/21/17   Hydrologist Approval ______ Initials

Fee Received $ 35   Receipt No. VISA 077366   Check No. ______

THIS PERMIT IS NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD OR DELEGATED AUTHORITY. THE PERMIT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL CONSTRUCTION, REPAIR, MODIFICATION, OR ABANDONMENT ACTIVITIES.

Permit No. 4296

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PALM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

Comments:

* Abandon per Ch40C-3 & 62-532.
- Submit completion reports within 30 days of completion.

*General Site Map of Proposed Well Location

SEE Attached site map & GPS Coordinates

N

Issuance of this permit does not relieve the well owner of meeting the permit requirements of county, municipal, or other legally constituted authorities.

Identify known roads and landmarks. Give distances from all reference points or structures, septic systems, sanitary hazards, and contamination sources, if applicable.

STATE OF FLORIDA WELL COMPLETION REPORT

☐ Southwest
☐ Northwest
☐ St. Johns River
☐ South Florida
☐ Suwannee River
☐ DEP
☑ Delegated Authority (If Applicable) Brevard County

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

Date Stamp

Official Use Only

1.*Permit Number 42966 *CUP/WUP Number ____ DID Number ____ 62-524 Delineation No. ____

2.*Number of permitted wells constructed, repaired, or abandoned 6 Number of permitted wells not constructed, repaired, or abandoned 0

3.*Owner's Name NASA John F Kennedy space center 4.*Completion Date 3-9-16 5. Florida Unique ID ____

6. Orbiter Processing Facility NASA Kennedy space center FL
*Well Location - Address, Road Name or Number, City, ZIP

7.*County Brevard *Section ____ Land Grant ____ *Township ____ *Range ____

8. Latitude ____ Longitude ____

9. Data Obtained From: ✓ GPS ____ Map ____ Survey Datum: ____ NAD 27 ✓ NAD 83 ____ WGS 84

10.*Type of Work: ____ Construction ____ Repair ____ Modification X Abandonment

11.*Specify Intended Use(s) of Well(s):
____ Domestic
____ Bottled Water Supply
____ Public Water Supply (Limited Use/DOH)
____ Public Water Supply (Community or Non-Community/DEP)
____ Class I Injection
____ Landscape Irrigation
____ Recreation Area Irrigation
____ Agricultural Irrigation
____ Livestock
____ Nursery Irrigation
____ Commercial/Industrial
____ Golf Course Irrigation
____ Site Investigation
X Monitoring
____ Test
____ Earth-Coupled Geothermal
____ HVAC Supply
____ HVAC Return
Class V Injection: ____ Recharge ____ Commercial/Industrial Disposal ____ Aquifer Storage and Recovery ____ Drainage
Remediation: ____ Recovery ____ Air Sparge ____ Other (Describe) ____
____ Other (Describe) ____

12.*Drill Method: ____ Auger ____ Cable Tool ____ Rotary ____ Combination (Two or More Methods) ____ Jetted ____ Sonic ____ Horizontal Drilling ____ Hydraulic Point (Direct Push) X Other Tremmie Grout

13.*Measured Static Water Level ____ ft. Measured Pumping Water Level ____ ft. After ____ Hours at ____ GPM

14.*Measuring Point (Describe) ____ Which is ____ ft. ____ Above ____ Below Land Surface *Flowing: ____ Yes ____ No

15.*Casing Material: ____ Black Steel ____ Galvanized X PVC ____ Stainless Steel ____ Not Cased ____ Other

16.*Total Well Depth 29.5 ft. Cased Depth 24.5 ft. *Open Hole: From ____ To ____ ft. *Screen: From 24.5 To 29.5 ft. Slot Size .010

17.*Abandonment: ____ Other (Explain) ____

From	To	No. of Bags	Seal Material (Check One)
0 ft.	29.5 ft.	2	✓ Neat Cement ____ Bentonite ____ Other ____
____ ft.	____ ft.	____	____ Neat Cement ____ Bentonite ____ Other ____
____ ft.	____ ft.	____	____ Neat Cement ____ Bentonite ____ Other ____
____ ft.	____ ft.	____	____ Neat Cement ____ Bentonite ____ Other ____
____ ft.	____ ft.	____	____ Neat Cement ____ Bentonite ____ Other ____

18.*Surface Casing Diameter and Depth:

Dia	From	To	No. of Bags	Seal Material (Check One)
2 in.	0 ft.	24.5 ft.	____	✓ Neat Cement ____ Bentonite ____ Other ____
____ in.	____ ft.	____ ft.	____	____ Neat Cement ____ Bentonite ____ Other ____

19.*Primary Casing Diameter and Depth:

Dia	From	To	No. of Bags	Seal Material (Check One)
____ in.	____ ft.	____ ft.	____	____ Neat Cement ____ Bentonite ____ Other ____
____ in.	____ ft.	____ ft.	____	____ Neat Cement ____ Bentonite ____ Other ____
____ in.	____ ft.	____ ft.	____	____ Neat Cement ____ Bentonite ____ Other ____
____ in.	____ ft.	____ ft.	____	____ Neat Cement ____ Bentonite ____ Other ____
____ in.	____ ft.	____ ft.	____	____ Neat Cement ____ Bentonite ____ Other ____

20.*Liner Casing Diameter and Depth:

Dia	From	To	No. of Bags	Seal Material (Check One)
____ in.	____ ft.	____ ft.	____	____ Neat Cement ____ Bentonite ____ Other ____
____ in.	____ ft.	____ ft.	____	____ Neat Cement ____ Bentonite ____ Other ____
____ in.	____ ft.	____ ft.	____	____ Neat Cement ____ Bentonite ____ Other ____

21.*Telescope Casing Diameter and Depth:

Dia	From	To	No. of Bags	Seal Material (Check One)
____ in.	____ ft.	____ ft.	____	____ Neat Cement ____ Bentonite ____ Other ____
____ in.	____ ft.	____ ft.	____	____ Neat Cement ____ Bentonite ____ Other ____
____ in.	____ ft.	____ ft.	____	____ Neat Cement ____ Bentonite ____ Other ____

22. Pump Type (If Known): N/A
____ Centrifugal ____ Jet ____ Submersible ____ Turbine
Horsepower ____ Pump Capacity (GPM) ____
Pump Depth ____ ft. Intake Depth ____ ft.

23. Chemical Analysis (When Required):
Iron ____ ppm Sulfate ____ ppm Chloride ____ ppm
____ Laboratory Test ____ Field Test Kit

24. Water Well Contractor:
*Contractor Name Raymond Robinson *License Number 2633 E-mail Address rrobinson@core-eaca.com
*Contractor's Signature [signature] Driller's Name (Print or Type) Richard Allen
(I certify that the information provided in this report is accurate and true.)

*Permit No. 42966

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PALM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

*DRILL CUTTINGS LOG (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	To	Color	Grain Size (F, M, C)	Material
From ft.	To ft.	Color	Grain Size (F, M, C)	Material

Comments:

*Detailed Site Map of Well Location

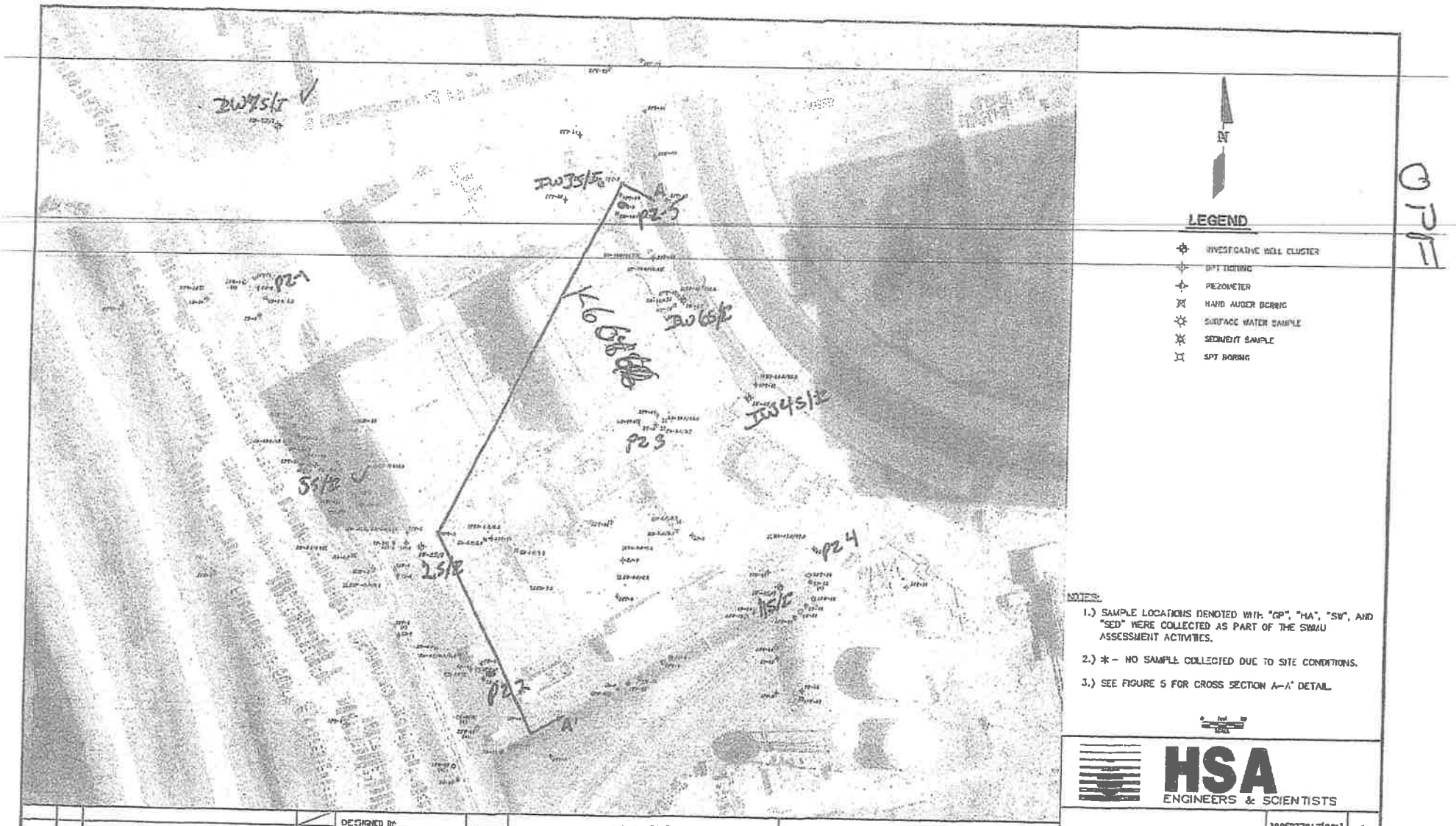
SEE Attached site map & GPS Coordinates

Wells Abandoned on This Permit

N

OPF-IW07I	29.60'
OPF-IW05I	28.92'
OPF-IW03I	28.90'
OPF-IW01I	29.20'
OPF-IW02I	28.91'
OPF-PZ02	14.50'

OPF 65245 only no D



NOTES:

1.) SAMPLE LOCATIONS DENOTED WITH: "GP", "HA", "SW", AND "SED" WERE COLLECTED AS PART OF THE SWMU ASSESSMENT ACTIVITIES.

2.) * - NO SAMPLE COLLECTED DUE TO SITE CONDITIONS.

3.) SEE FIGURE 5 FOR CROSS SECTION A-A' DETAIL.

DATE	NO.	REVISION	BY

DESIGNED BY: _____
DRAWN BY: B. LEE 1/2/06
CHECKED BY: _____
APPROVED BY: _____

NASA
National Aeronautics and Space Administration
Kennedy Space Center, Florida
Client

ORBITER PROCESSING FACILITY 1 AND 2
KENNEDY SPACE CENTER, FLORIDA
Project Location

HSA
ENGINEERS & SCIENTISTS

SITE PLAN

30052778 17[001] 0
DRAWING No. REV.

3
FIG./SHEET No.

OPF

ID	EASTING	NORTHING
DPT-01	233617.3382	471205.3562
DPT-02	233673.6729	471203.0337
DPT-03	233694.8868	471140.7627
DPT-04	233660.3977	471099.5553
DPT-05	233740.0920	471107.9485
DPT-06	233715.5078	471044.0142
DPT-07	233791.3696	471028.3833
DPT-08	233819.8294	471092.9614
DPT-09	233879.6145	471056.5159
DPT-10	233877.5444	471099.2596
DPT-11	233926.9589	471097.9198
DPT-12	233870.9632	471174.9909
DPT-13	233835.6612	471209.8901
DPT-14	233820.5066	471250.7377
DPT-15	233762.6104	471108.4512
DPT-16	233809.8354	471126.0981
DPT-17	233832.1991	471160.3805
DPT-18	233834.1276	471221.9710
DPT-19	233833.5913	471242.8020
DPT-20	233826.4870	471266.4066
DPT-21	233822.2616	471282.9515
DPT-22	233818.9088	471300.0291
DPT-23	233803.1019	471298.8733
DPT-24	233794.9902	471268.9399
DPT-25	233792.1762	471243.4332
DPT-26	233694.4035	471141.6782
HB-02	233705.2135	471106.1525
HB-03	233711.0976	471094.6542
HB-04	233744.2868	471066.7802
HB-05	233749.9684	471053.5889
HB-06	233758.8903	471114.2299
HB-07	233781.4492	471088.6597
HB-07A	233782.9532	471094.5515
HB-08	233820.8157	471103.4680
HB-09	233842.0751	471117.6148
HB-09A	233835.9477	471120.1563
HB-10	233828.4653	471159.4181
HB-11	233835.9915	471157.3519
HB-12	233837.4753	471211.2163
HB-13	233828.9082	471219.1982
HB-14	233808.6158	471236.9305
HB-15	233716.9866	471139.4183
HB-16	233871.9458	471176.0529
HB-17	233876.2079	471114.4697
HB-18	233821.4141	471224.2741
HB-19	233830.3146	471217.4735
HB-20	233710.7424	471157.2882
IW-1	233878.0896	471093.7691
IW-1I	233877.5988	471094.0910
IW-1S	233878.4965	471093.3566
IW-2	233738.0128	471111.8629

IW-2I	233737.5067	471112.5209
IW-2S	233738.1806	471111.2063
IW-3	233803.0163	471250.0749
IW-3I	233802.6077	471249.8003
IW-3S	233803.4854	471250.3233
IW-4	233867.8388	471169.6870
IW-4I	233867.7104	471169.3923
IW-4S	233867.7266	471169.9912
IW-5	233694.7141	471141.2685
IW-5I	233694.1078	471142.0891
IW-6S	233834.8716	471218.6880
IW-7I	233675.8193	471275.4426
IW-7S	233676.5285	471274.3637
PZ-01	233673.1448	471202.1013
PZ-02	233763.9755	471064.0307
PZ-03	233832.0064	471158.4779
PZ-04	233891.3709	471108.7187
PZ-05	233820.9441	471249.1057
SD-01	233673.8618	471198.3958
SD-02	233684.2545	471152.4163
SD-03	233710.1139	471129.8162
SD-04	233701.9476	471119.7617
SD-05	233729.7051	471097.5125
SD-06	233726.8220	471076.4306
SD-07	233754.5905	471052.4513
SD-08	233820.5745	471053.9197
SD-09	233838.8993	471064.0818
SD-10	233864.9045	471082.7149
SD-11	233881.0246	471063.5007
SD-14	233653.0225	471205.6883
SD-16	233750.0994	471020.7621
SD-17	233774.1204	471027.9291
SD-18	233888.2403	471050.3089
SFW-02	233682.5459	471155.8099
SFW-03	233707.2642	471133.3259
SFW-04	233702.9943	471118.4956
SFW-05	233729.3160	471097.8337
SFW-06	233726.1919	471077.6643
SFW-08	233819.9036	471053.4590
SFW-09	233838.2785	471063.7288
SFW-10	233864.0035	471082.1262
SFW-11	233881.0343	471064.0714
SFW-12	233894.4838	471089.6527
SFW-13	233890.7308	471100.5195
SFW-14	233645.2035	471223.5167
SFW-17	233774.7645	471028.6154
SFW-18	233887.2947	471050.7009
SPT-01	233778.7703	471042.1782
SPT-02	233820.0947	471251.8272
SPT-03	233748.1883	471110.6363

State Plane, NAD 83, Florida East (in meters)

FLORIDA DEPARTMENT OF HEALTH – BREVARD COUNTY
Environmental Health Services
2725 Judge Fran Jamieson Way, Suite A116
Viera, Florida 32940-6605
PHONE: 321/633-2100 FAX: 321/633-2151
www.BrevardEH.com

WELL CONSTRUCTION PERMIT

Permit Number: 42967
Purpose: ABANDONMENT
Subdivision/Lot#: K6-6462 (7 WELLS)
Well Site Address: ORBITER PROCESSING FACILITY
KENNEDY SPACE CENTER FL

Application Date: 1/20/2016
Expiration Date: 1/20/2017
Permit Fee: $35.00

Well Contractor: Raymond Robinson **WWC #:** 2633 **WWC Phone #:** 407-467-7857

Owner Name: UNITED STATES GOVERNMENT
Owner Address: P O BOX 366
TITUSVILLE FL 32781-
Suite/Unit#:
Owner Phone #:

Issuance of this permit does not relieve the well owner of meeting the permit requirements of county, municipal, or other legally constituted authorities. The well contractor must meet the well set-back per Chapter 62-532, F.A.C., Table 1. Any variance from these setbacks or change to site plan must be approved in advance by Environmental Health Services.

Inspection Details:

Circle One: OSTDS or Sewer

Foundation Setback: _____'

- ☐ Site Plan
- ☐ Well ID Tag
- ☐ Casing Height _____"
- ☐ Grout Depth _____"
- ☐ Completion Report ____/____/____
- ☐ OSTDS Site Setback _____'
- ☐ OSTDS AP Setback _____'
- ☐ OSTDS/Well - Final ____/____/____
- ☐ Bacteriological Result ____/____/____
- ☐ Nitrate Result ____/____/____
- ☐ Variance Application Date ____/____/____
- ☐ Variance Approval Date ____/____/____
- ☐ Warning Notice Sent ____/____/____
- ☐ Compliance Letter Sent ____/____/____
- ☐ Other: _____

Notes:

	Original Site Visit	Construction Date	Re-inspection Date	Final Date
Date				
Initials				

THIS PERMIT IS ISSUED BY THE AUTHORIZED REPRESENTATIVE OF THE FLORIDA DEPARTMENT OF HEALTH UNDER THE AUTHORITY OF CHAPTER 381, 402, 403, 513, 514, AND 489 PARTIII, FLORIDA STATUTES, FLORIDA ADMINISTRATIVE CODE AND BREVARD COUNTY CODE SECTION 46-36 THRU 46-72 ARTICLE II. ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS AND WATER WELL PERMITTING. THIS PERMIT IS SUBJECT TO SUSPENSION OR REVOCATION WHEN IT IS DETERMINED BY THE DEPARTMENT THAT THE OPERATION, CONDITIONS AND/OR DEPARTMENT STANDARDS ARE NOT BEING MET

DISPLAY IN A CONSPICUOUS PLACE – THIS PERMIT IS NON-TRANSFERABLE

STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

PAID JAN 19 2016

☐ Southwest
☐ Northwest
☑ St. Johns River
☐ South Florida
☐ Suwannee River
☐ DEP
☑ Delegated Authority (If Applicable) Brevard - FLDOH

PLEASE FILL OUT ALL APPLICABLE FIELDS (* Denotes Required Fields Where Applicable)

The water well contractor is responsible for completing this form and forwarding the permit application to the appropriate delegated authority where applicable.

Permit No 42967
Florida Unique ID
Permit Stipulations Required (See Attached)
62-524 Quad No ____ Delineation No ____
CUP/WUP Application No.

ABOVE THIS LINE - FOR OFFICIAL USE ONLY

1. *Owner Legal Name if Corporation: NASA John F. Kennedy Space Center *Address: Kennedy Space Center *City: Kennedy Space Center FL *State *ZIP *Telephone Number
2. Well Location - Address, Road Name or Number, City: Orbiter Processing Facility 1&2 16-6462 Kennedy Space Center FL
3. *Parcel ID No (PIN) or Alternate Key (Circle One): 22-36-22-00-00.00
4. *Section or Land Grant: 22 *Township: 22 *Range: 36 *County: 2633 Subdivision: Lot: 00 Block: 00 Unit: 00
5. Water Well Contractor: Raymond Robinson *License Number: 2633 *Telephone Number: 407-467-7857 E-mail Address: robinson@core-encon.com Check if 62-524: ___ Yes ___ No
6. *Water Well Contractor's Address: 1020 Railroad Ave *City: Winter Park *State: FL *ZIP: 32789
7. *Type of Work: ___ Construction ___ Repair ___ Modification ✓ Abandonment *Reason for Repair, Modification, or Abandonment: No Longer Needed
8. *Number of Proposed Wells: 7
9. *Specify Intended Use(s) of Well(s):
___ Domestic
___ Bottled Water Supply
___ Public Water Supply (Limited Use/DOH)
___ Public Water Supply (Community or Non-Community/DEP)
___ Class I Injection
Class V Injection: ___ Recharge ___ Commercial/Industrial Disposal ___ Aquifer Storage and Recovery ___ Drainage
Remediation ___ Recovery ___ Air Sparge ___ Other (Describe)
___ Other (Describe)
___ Landscape Irrigation
___ Recreation Area Irrigation
___ Agricultural Irrigation
___ Livestock
___ Nursery Irrigation
___ Commercial/Industrial
___ Golf Course Irrigation
___ Site Investigation
✓ Monitoring
___ Test
___ Earth-Coupled Geothermal
___ HVAC Supply
___ HVAC Return
(Note: Not all types of wells are permitted by a given permitting authority)

Date Stamp: RECEIVED JAN 19 2016 BY: DCM Official Use Only

10. *Distance from Septic System if ≤200 ft: n/k 11. Facility Description: Orbiter Processing Fac 12. Estimated Start Date: 1-25-16
13. Estimated Well Depth: 15 ft. *Estimated Casing Depth: 5 ft. *Primary Casing Diameter: 2 in. Open Hole: From ___ To ___ ft
14. Estimated Screen Interval: From 5 To 15 ft.
15. *Primary Casing Material: ___ Black Steel ___ Galvanized ✓ PVC ___ Stainless Steel ___ Not Cased ___ Other
16. Secondary Casing: ___ Telescope Casing ___ Liner ___ Surface Casing Diameter ___ in.
17. Secondary Casing Material: ___ Black Steel ___ Galvanized ___ PVC ___ Stainless Steel ___ Other
18. *Method of Construction, Repair, or Abandonment: ___ Auger ___ Cable Tool ___ Jetted ___ Rotary ___ Sonic ___ Combination (Two or More Methods) ___ Hand Driven (Well Point, Sand Point) ___ Hydraulic Point (Direct Push) ___ Horizontal Drilling ✓ Plugged by Approved Method ___ Other (Describe) Trimmie Grout
19. Proposed Grouting Interval for the Primary, Secondary, and Additional Casing
From 0 To 15 Seal Material (___ Bentonite ✓ Neat Cement ___ Other)
From ___ To ___ Seal Material (___ Bentonite ___ Neat Cement ___ Other)
From ___ To ___ Seal Material (___ Bentonite ___ Neat Cement ___ Other)
From ___ To ___ Seal Material (___ Bentonite ___ Neat Cement ___ Other)
20. Indicate total number of existing wells on site ____ List number of existing unused wells on site ____
21. *Is this well or any existing well or water withdrawal on the owner's contiguous property covered under a Consumptive/Water Use Permit (CUP/WUP) or CUP/WUP Application? ___ Yes ___ No If yes, complete the following: CUP/WUP No ____ District Well ID No. ____
22. Latitude See attached list Longitude
23. Data Obtained From: ✓ GPS ___ Map ___ Survey Datum: ___ NAD 27 ✓ NAD 83 ___ WGS 84

I hereby certify that I am currently in the application rules of Title 40, Florida Administrative Code, and that a water well contractor, if needed, has been or will be employed prior to commencement of well construction. I further certify that all information provided on this application is accurate and that I will obtain subsequently approved permits from the District, State, or local governments, if applicable. I agree to provide a well completion report to the District within 30 days after completion of the construction, repair, modification or abandonment of a well and to submit to the owner, or the owner's designee, a copy of such report.

*Signature of Contractor: Raymond Robinson 2633 *License No.

I hereby certify that I am the owner of the property, that the information provided is accurate, and that I am aware of my responsibilities under Chapter 373, Florida Statutes, to maintain or properly abandon the well. If I certify that I am the agent for the owner, that the information provided is accurate, and that I have informed the owner of their responsibilities, as stated above. Owner consents to allowing personnel of the WMD or Delegated Authority duly authorized by the agency to enter the property at reasonable times to inspect the construction, repair, modification or abandonment authorized by this permit.

*Signature of Owner or Agent: Raymond Robinson *Date: 1-18-16

BELOW THIS LINE - FOR OFFICIAL USE ONLY

Approval Granted By: Jill Love Issue Date: 1/21/16 Expiration Date: 1/21/17 Hydrologist Approval: Initials
Fee Received: $ #35 Receipt No. VISA 077364 Check No

THIS PERMIT IS NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD OR DELEGATED AUTHORITY. THE PERMIT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL CONSTRUCTION, REPAIR, MODIFICATION, OR ABANDONMENT ACTIVITIES.

Permit No. 42967

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PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

Comments:

- Abandon per CH40C-3 + 62-532
- submit completion report within 30 days of completion.

*General Site Map of Proposed Well Location

SEE Attached site map + GPS Coordinates

N

Issuance of this permit does not relieve the well owner of meeting the permit requirements of county, municipal, or other legally constituted authorities.

OPF

Identify known roads and landmarks. Give distances from all reference points or structures, septic systems, sanitary hazards, and contamination sources, if applicable.

STATE OF FLORIDA WELL COMPLETION REPORT

☐ Southwest
☐ Northwest
☐ St. Johns River
☐ South Florida
☐ Suwannee River
☐ DEP
☒ Delegated Authority (If Applicable) Brevard County

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

Date Stamp

Official Use Only

1.*Permit Number 42967 CUP/WUP Number ______ DID Number ______ 62-524 Delineation No. ______

2.*Number of permitted wells constructed, repaired, or abandoned 7 Number of permitted wells not constructed, repaired, or abandoned 0

3.*Owner's Name NASA John F Kennedy Space Center 4.*Completion Date 3-9-16 5. Florida Unique ID ______

6.*Orbiter Processing Facility NASA Kennedy Space Center FL
Well Location - Address, Road Name or Number, City, ZIP

7.*County Brevard Section ______ Land Grant ______ Township ______ Range ______

8. Latitude ______ Longitude ______

9. Data Obtained From: ✓ GPS ___ Map ___ Survey Datum: ___ NAD 27 ✓ NAD 83 ___ WGS 84

10.*Type of Work: ___ Construction ___ Repair ___ Modification X Abandonment

11.*Specify Intended Use(s) of Well(s):
___ Domestic
___ Bottled Water Supply
___ Public Water Supply (Limited Use/DOH)
___ Public Water Supply (Community or Non-Community/DEP)
___ Class I Injection
___ Landscape Irrigation
___ Recreation Area Irrigation
___ Agricultural Irrigation
___ Livestock
___ Nursery Irrigation
___ Commercial/Industrial
___ Golf Course Irrigation
___ Site Investigation
X Monitoring
___ Test
___ Earth-Coupled Geothermal
___ HVAC Supply
___ HVAC Return

Class V Injection: ___ Recharge ___ Commercial/Industrial Disposal ___ Aquifer Storage and Recovery ___ Drainage

Remediation: ___ Recovery ___ Air Sparge ___ Other (Describe) ______

___ Other (Describe) ______

12.*Drill Method: ___ Auger ___ Cable Tool ___ Rotary ___ Combination (Two or More Methods) ___ Jetted ___ Sonic ___ Horizontal Drilling ___ Hydraulic Point (Direct Push) X Other Tremmie Grout

13.*Measured Static Water Level ______ ft. Measured Pumping Water Level ______ ft. After ______ Hours at ______ GPM

14.*Measuring Point (Describe) ______ Which is ___ ft. ___ Above ___ Below Land Surface *Flowing: ___ Yes ___ No

15.*Casing Material: ___ Black Steel ___ Galvanized X PVC ___ Stainless Steel ___ Not Cased ___ Other ______

16.*Total Well Depth 12.5 ft. Cased Depth 2.5 ft. Open Hole: From ___ To ___ ft. *Screen: From 2.5 To 12.5 ft. Slot Size .010

17.*Abandonment: ___ Other (Explain) ______

From	To	No. of Bags	Seal Material (Check One)
0 ft.	12.5 ft.	1	✓ Neat Cement ___ Bentonite ___ Other ___
___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___
___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___
___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___
___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___

18.*Surface Casing Diameter and Depth:

Dia	From	To	No. of Bags	Seal Material (Check One)
0 in.	2.5 ft.	___ ft.	___	✓ Neat Cement ___ Bentonite ___ Other ___
___ in.	___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___

19.*Primary Casing Diameter and Depth:

Dia	From	To	No. of Bags	Seal Material (Check One)
___ in.	___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___
___ in.	___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___
___ in.	___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___
___ in.	___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___
___ in.	___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___

20. Liner Casing Diameter and Depth:

Dia	From	To	No. of Bags	Seal Material (Check One)
___ in.	___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___
___ in.	___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___
___ in.	___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___

21.*Telescope Casing Diameter and Depth:

Dia	From	To	No. of Bags	Seal Material (Check One)
___ in.	___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___
___ in.	___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___
___ in.	___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___

22. Pump Type (If Known): N/A
___ Centrifugal ___ Jet ___ Submersible ___ Turbine
Horsepower ______ Pump Capacity (GPM) ______
Pump Depth ______ ft. Intake Depth ______ ft.

23. Chemical Analysis (When Required):
Iron ______ ppm Sulfate ______ ppm Chloride ______ ppm
___ Laboratory Test ___ Field Test Kit

24. Water Well Contractor:

*Contractor Name Raymond Robinson *License Number 2633 E-mail Address rrobinson@cove-ecol.com

*Contractor's Signature [signature] Driller's Name (Print or Type) Richard Allen

(I certify that the information provided in this report is accurate and true.)

*Permit No. 42967

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*DRILL CUTTINGS LOG (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From (ft.)	To (ft.)	Color	Grain Size (F, M, C)	Material

Comments:

*Detailed Site Map of Well Location

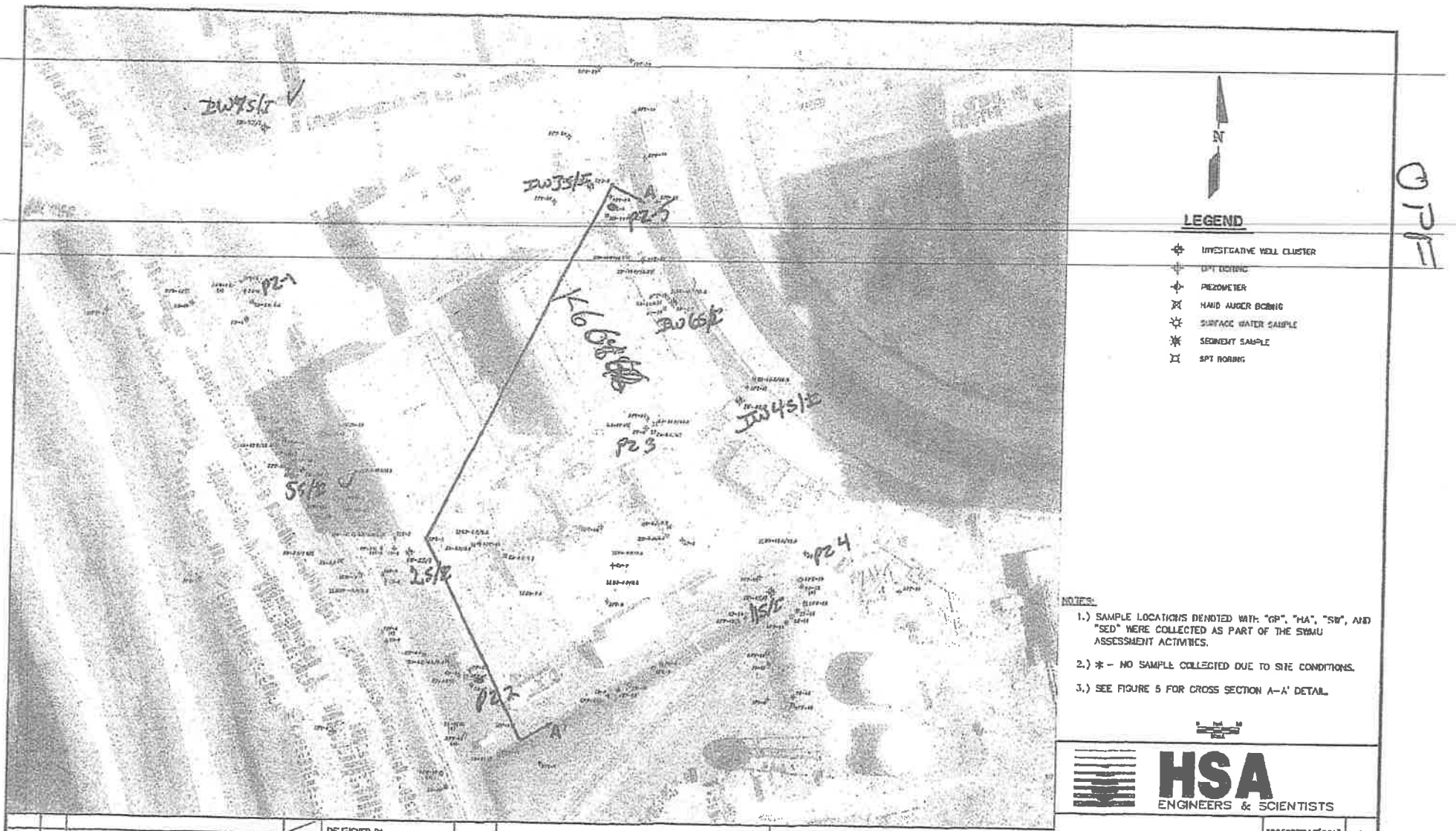
SEE Attached site map and GPS Coordinates

wells Abandoned on This permit

N

OPF-IW07S 11.60'
OPF-IW05S 11.60'
OPF-IW03S 11.70'
OPF-IW01S 11.90'
OPF-IW02S 10.82'
OPF-IW06S 10.91'
OPF-IW04S 12.30'

OPF 65245 only not D



LEGEND

- INVESTIGATIVE WELL CLUSTER
- SPT BORING
- PIEZOMETER
- HAND AUGER BORING
- SURFACE WATER SAMPLE
- SEDIMENT SAMPLE
- SPT BORING

NOTES:

1.) SAMPLE LOCATIONS DENOTED WITH: "GP", "HA", "SW", AND "SED" WERE COLLECTED AS PART OF THE SWMU ASSESSMENT ACTIVITIES.

2.) * - NO SAMPLE COLLECTED DUE TO SITE CONDITIONS.

3.) SEE FIGURE 5 FOR CROSS SECTION A-A' DETAIL.

DATE	NO.	REVISION	BY

DESIGNED BY: _____
DRAWN BY: M. LIFE 1/2/04
CHECKED BY: _____
APPROVED BY: _____

NASA
National Aeronautics and Space Administration
Kennedy Space Center, Florida
Client

ORBITER PROCESSING FACILITY 1 AND 2
KENNEDY SPACE CENTER, FLORIDA
Project Location

HSA
ENGINEERS & SCIENTISTS

SITE PLAN

3005277817[001] DRAWING No. 0 REV.

3 FIG./SHEET No.

OPF

OPF

ID	EASTING	NORTHING
DPT-01	233617.3382	471205.3562
DPT-02	233673.6729	471203.0337
DPT-03	233694.8868	471140.7627
DPT-04	233660.3977	471099.5553
DPT-05	233740.0920	471107.9485
DPT-06	233715.5078	471044.0142
DPT-07	233791.3696	471028.3833
DPT-08	233819.8294	471092.9614
DPT-09	233879.6145	471056.5159
DPT-10	233877.5444	471099.2596
DPT-11	233926.9589	471097.9198
DPT-12	233870.9632	471174.9909
DPT-13	233835.6612	471209.8901
DPT-14	233820.5066	471250.7377
DPT-15	233762.6104	471108.4512
DPT-16	233809.8354	471126.0981
DPT-17	233832.1991	471160.3805
DPT-18	233834.1276	471221.9710
DPT-19	233833.5913	471242.8020
DPT-20	233826.4870	471266.4066
DPT-21	233822.2616	471282.9515
DPT-22	233818.9088	471300.0291
DPT-23	233803.1019	471298.8733
DPT-24	233794.9902	471268.9399
DPT-25	233792.1762	471243.4332
DPT-26	233694.4035	471141.6782
HB-02	233705.2135	471106.1525
HB-03	233711.0976	471094.6542
HB-04	233744.2868	471066.7802
HB-05	233749.9684	471053.5889
HB-06	233758.8903	471114.2299
HB-07	233781.4492	471088.6597
HB-07A	233782.9532	471094.5515
HB-08	233820.8157	471103.4680
HB-09	233842.0751	471117.6148
HB-09A	233835.9477	471120.1563
HB-10	233828.4653	471159.4181
HB-11	233835.9915	471157.3519
HB-12	233837.4753	471211.2163
HB-13	233828.9082	471219.1982
HB-14	233808.6158	471236.9305
HB-15	233716.9866	471139.4183
HB-16	233871.9458	471176.0529
HB-17	233876.2079	471114.4697
HB-18	233821.4141	471224.2741
HB-19	233830.3146	471217.4735
HB-20	233710.7424	471157.2882
IW-1	233878.0896	471093.7691
IW-1I	233877.5988	471094.0910
IW-1S	233878.4965	471093.3566
IW-2	233738.0128	471111.8629

IW-2I	233737.5067	471112.5209
IW-2S	233738.1806	471111.2063
IW-3	233803.0163	471250.0749
IW-3I	233802.6077	471249.8003
IW-3S	233803.4854	471250.3233
IW-4	233867.8388	471169.6870
IW-4I	233867.7104	471169.3923
IW-4S	233867.7266	471169.9912
IW-5S	233694.7141	471141.2685
IW-5I	233694.1078	471142.0891
IW-6S	233834.8716	471218.6880
IW-7I	233675.8193	471275.4426
IW-7S	233676.5285	471274.3637
PZ-01	233673.1448	471202.1013
PZ-02	233763.9755	471064.0307
PZ-03	233832.0064	471158.4779
PZ-04	233891.3709	471108.7187
PZ-05	233820.9441	471249.1057
SD-01	233673.8618	471198.3958
SD-02	233684.2545	471152.4163
SD-03	233710.1139	471129.8162
SD-04	233701.9476	471119.7617
SD-05	233729.7051	471097.5125
SD-06	233726.8220	471076.4306
SD-07	233754.5905	471052.4513
SD-08	233820.5745	471053.9197
SD-09	233838.8993	471064.0818
SD-10	233864.9045	471082.7149
SD-11	233881.0246	471063.5007
SD-14	233653.0225	471205.6883
SD-16	233750.0994	471020.7621
SD-17	233774.1204	471027.9291
SD-18	233888.2403	471050.3089
SFW-02	233682.5459	471155.8099
SFW-03	233707.2642	471133.3259
SFW-04	233702.9943	471118.4956
SFW-05	233729.3160	471097.8337
SFW-06	233726.1919	471077.6643
SFW-08	233819.9036	471053.4590
SFW-09	233838.2785	471063.7288
SFW-10	233864.0035	471082.1262
SFW-11	233881.0343	471064.0714
SFW-12	233894.4838	471089.6527
SFW-13	233890.7308	471100.5195
SFW-14	233645.2035	471223.5167
SFW-17	233774.7645	471028.6154
SFW-18	233887.2947	471050.7009
SPT-01	233778.7703	471042.1782
SPT-02	233820.0947	471251.8272
SPT-03	233748.1883	471110.6363

State Plane, NAD 83, Florida East (in meters)

FLORIDA DEPARTMENT OF HEALTH – BREVARD COUNTY
Environmental Health Services
2725 Judge Fran Jamieson Way, Suite A116
Viera, Florida 32940-6605
PHONE: 321/633-2100 FAX: 321/633-2151
www.BrevardEH.com

WELL CONSTRUCTION PERMIT

Permit Number: 42969
Purpose: ABANDONMENT
Subdivision/Lot#: FACILITY K6-0696 (3 WELLS)
Well Site Address: CRAWLER WAY
KENNEDY SPACE CENTER FL

Application Date: 1/20/2016
Expiration Date: 1/20/2017
Permit Fee: $35.00

Well Contractor: Raymond Robinson **WWC #:** 2633 **WWC Phone #:** 407-467-7857

Owner Name: UNITED STATES GOVERNMENT
Owner Address: P O BOX 366
TITUSVILLE FL 32781-
Suite/Unit#:
Owner Phone #:

Issuance of this permit does not relieve the well owner of meeting the permit requirements of county, municipal, or other legally constituted authorities. The well contractor must meet the well set-back per Chapter 62-532, F.A.C., Table 1. Any variance from these setbacks or change to site plan must be approved in advance by Environmental Health Services.

Inspection Details:

Circle One: OSTDS or Sewer

Foundation Setback: _____'

- ☐ Site Plan
- ☐ Well ID Tag
- ☐ Casing Height _____"
- ☐ Grout Depth _____"
- ☐ Completion Report ____/____/____
- ☐ OSTDS Site Setback _____'
- ☐ OSTDS AP Setback _____'
- ☐ OSTDS/Well - Final ____/____/____
- ☐ Bacteriological Result ____/____/____
- ☐ Nitrate Result ____/____/____
- ☐ Variance Application Date ____/____/____
- ☐ Variance Approval Date ____/____/____
- ☐ Warning Notice Sent ____/____/____
- ☐ Compliance Letter Sent ____/____/____
- ☐ Other: _____

Notes:

	Original Site Visit	Construction Date	Re-inspection Date	Final Date
Date				
Initials				

THIS PERMIT IS ISSUED BY THE AUTHORIZED REPRESENTATIVE OF THE FLORIDA DEPARTMENT OF HEALTH UNDER THE AUTHORITY OF CHAPTER 381, 402, 403, 513, 514, AND 489 PARTIII, FLORIDA STATUTES, FLORIDA ADMINISTRATIVE CODE AND BREVARD COUNTY CODE SECTION 46-36 THRU 46-72 ARTICLE II. ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS AND WATER WELL PERMITTING. THIS PERMIT IS SUBJECT TO SUSPENSION OR REVOCATION WHEN IT IS DETERMINED BY THE DEPARTMENT THAT THE OPERATION, CONDITIONS AND/OR DEPARTMENT STANDARDS ARE NOT BEING MET

DISPLAY IN A CONSPICUOUS PLACE – THIS PERMIT IS NON-TRANSFERABLE

STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

PAID JAN 19 2016

☐ Southwest ☐ Northwest ☑ St. Johns River ☐ South Florida ☐ Suwannee River ☐ DEP ☑ Delegated Authority (If Applicable) Brevard - FLDOH

PLEASE FILL OUT ALL APPLICABLE FIELDS (* Denotes Required Fields Where Applicable)

The water well contractor is responsible for completing this form and forwarding the permit application to the appropriate delegated authority where applicable

Permit No 42969

Florida Unique ID

Permit Stipulations Required (See Attached)

62-524 Quad No _____ Delineation No. _____

CUP/WUP Application No.

ABOVE THIS LINE - FOR OFFICIAL USE ONLY

1 NASA John F. Kennedy Space Center — Kennedy Space Center — FL
*Owner, Legal Name if Corporation — *Address — *City — *State

2 Facility 166-0696 — Kennedy Space Center FL — 32899
Well Location Address, Road Name or Number, City — *ZIP — *Telephone Number

3 22-36-22-00-00-00
*Parcel ID No. (PIN) or Alternate Key (Circle One)

4 22 — 22 — 36 — _____ — _____ — 00 — 00 — 00
*Section or Land Grant — *Township — *Range — *County — Subdivision — Lot — Block — Unit

Check if 62-524 ___ Yes ___ No

5 Raymond Robinson — 2633 — 407-467-7857 — robinson@core-encon.com
*Water Well Contractor — *License Number — *Telephone Number — E-mail Address

6 1020 Railroad Ave — Winter Park — FL — 32789
*Water Well Contractor's Address — City — State — ZIP

7. *Type of Work: ___ Construction ___ Repair ___ Modification ✓ Abandonment — No Longer Needed
8. *Number of Proposed Wells 3 — *Reason for Repair, Modification, or Abandonment

9. *Specify Intended Use(s) of Well(s)

___ Domestic
___ Bottled Water Supply
___ Public Water Supply (Limited Use/DOH)
___ Public Water Supply (Community or Non-Community/DEP)
___ Class I Injection
___ Landscape Irrigation
___ Recreation Area Irrigation
___ Agricultural Irrigation
___ Livestock
___ Nursery Irrigation
___ Commercial/Industrial
___ Golf Course Irrigation
___ Site Investigation
✓ Monitoring
___ Test
___ Earth-Coupled Geothermal
___ HVAC Supply
___ HVAC Return

Class V Injection. ___ Recharge ___ Commercial/Industrial Disposal ___ Aquifer Storage and Recovery ___ Drainage
Remediation ___ Recovery ___ Air Sparge ___ Other (Describe)
___ Other (Describe) (Note: Not all types of wells are permitted by a given permitting authority)

RECEIVED JAN 19 2016 BY: DCM Official Use Only

10. *Distance from Septic System if ≤200 ft. n/k — 11. Facility Description Orbiter Processing Fac — 12. Estimated Start Date 1-25-16
13. Estimated Well Depth 47 ft. *Estimated Casing Depth 42 ft. *Primary Casing Diameter 2 in. Open Hole: From ___ To ___ ft.
14. Estimated Screen Interval: From 42 To 47 ft.
15. *Primary Casing Material: ___ Black Steel ___ Galvanized ✓ PVC ___ Stainless Steel ___ Not Cased ___ Other:
16. Secondary Casing: ___ Telescope Casing ___ Liner ___ Surface Casing Diameter ___ ft.
17. Secondary Casing Material: ___ Black Steel ___ Galvanized ___ PVC ___ Stainless Steel ___ Other
18. *Method of Construction, Repair, or Abandonment: ___ Auger ___ Cable Tool ___ Jetted ___ Rotary ___ Sonic ___ Combination (Two or More Methods) ___ Hand Driven (Well Point, Sand Point) ___ Hydraulic Point (Direct Push) ___ Horizontal Drilling ✓ Plugged by Approved Method ___ Other (Describe) Tremie Grout
19. Proposed Grouting Interval for the Primary, Secondary, and Additional Casing
From 0 To 47 Seal Material (___ Bentonite ✓ Neat Cement ___ Other)
From ___ To ___ Seal Material (___ Bentonite ___ Neat Cement ___ Other)
From ___ To ___ Seal Material (___ Bentonite ___ Neat Cement ___ Other)
From ___ To ___ Seal Material (___ Bentonite ___ Neat Cement ___ Other)
20. Indicate total number of existing wells on site 3 — List number of existing unused wells on site ___
21. *Is this well or any existing well or water withdrawal on the owner's contiguous property covered under a Consumptive/Water Use Permit (CUP/WUP) or CUP/WUP Application? ___ Yes ✓ No If yes, complete the following: CUP/WUP No. ___ District Well ID No. ___
22. Latitude 28°36'1.271" N — Longitude 80°38'47.854" W
23. Data Obtained From ✓ GPS ___ Map ___ Survey — Datum: ___ NAD 27 ✓ NAD 83 ___ WGS 84 — Meters

I hereby certify that I am licensed in accordance with the applicable rules of Title 40, Florida Administrative Code, and that a water well permit or approval as required, if needed, has been or will be obtained prior to commencement of well construction. I further certify that all information provided in this application is accurate and that well construction will be done as specified. I agree to provide a well completion report to the District within 30 days after completion of the construction, repair, modification or abandonment, or the permit expiration, whichever occurs first.

Raymond Robinson — 2633 — 1-18-16
*Signature of Contractor — *License No — Date

I certify that I am the owner of the property and the information provided is accurate. I certify that I am aware of the responsibilities under Chapter 373, Florida Statutes, to maintain or properly abandon this well. I certify that I am the agent for the owner, that the information provided is accurate, and that I have informed the owner of their responsibilities as stated above. Owner consents to allowing personnel of the WMD or Delegated Authority access to the well site during the construction, repair, modification or abandonment authorized by this permit.

Raymond Robinson — 1-18-16
*Signature of Owner or Agent — Date

BELOW THIS LINE - FOR OFFICIAL USE ONLY

Approval Granted By Jill Love — Issue Date 1/21/16 — Expiration Date 1/21/17 — Hydrologist Approval ___ Initial

Fee Received $ 435 — Receipt No VISA 077364 — Check No ___

THIS PERMIT IS NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD OR DELEGATED AUTHORITY. THE PERMIT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL CONSTRUCTION, REPAIR, MODIFICATION, OR ABANDONMENT ACTIVITIES.

Permit No. 42969

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PALM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

Comments:

- Abandon per Ch40c-3 + 62-532
- Submit completion report within 30 days of completion.

*General Site Map of Proposed Well Location

SEE Attached site map

N

Issuance of this permit does not relieve the well owner of meeting the permit requirements of county, municipal, or other legally constituted authorities.

OPF 3

Identify known roads and landmarks. Give distances from all reference points or structures, septic systems, sanitary hazards, and contamination sources, if applicable.

STATE OF FLORIDA WELL COMPLETION REPORT

☐Southwest
☐Northwest
☐St. Johns River
☐South Florida
☐Suwannee River
☐DEP
☒Delegated Authority (If Applicable) Brevard County

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

Date Stamp

Official Use Only

1.*Permit Number 42969 *CUP/WUP Number ____ DID Number ____ 62-524 Delineation No. ____

2.*Number of permitted wells constructed, repaired, or abandoned 3 Number of permitted wells not constructed, repaired, or abandoned 0

3.*Owner's Name NASA John F Kennedy space center 4.*Completion Date 3-9-16 5. Florida Unique ID ____

6. Facility K6-0696 Orbiter Processing Facility 3 NASA KSC FL.
*Well Location - Address, Road Name or Number, City, ZIP

7.*County Brevard *Section ____ Land Grant ____ *Township ____ *Range ____

8. Latitude ____ Longitude ____

9. Data Obtained From: X GPS ____ Map ____ Survey Datum: ____ NAD 27 ____ NAD 83 ____ WGS 84

10.*Type of Work: ____ Construction ____ Repair ____ Modification X Abandonment

11.*Specify Intended Use(s) of Well(s):
____ Domestic
____ Bottled Water Supply
____ Public Water Supply (Limited Use/DOH)
____ Public Water Supply (Community or Non-Community/DEP)
____ Class I Injection
____ Landscape Irrigation
____ Recreation Area Irrigation
____ Agricultural Irrigation
____ Livestock
____ Nursery Irrigation
____ Commercial/Industrial
____ Golf Course Irrigation
____ Site Investigation
X Monitoring
____ Test
____ Earth-Coupled Geothermal
____ HVAC Supply
____ HVAC Return

Class V Injection: ____ Recharge ____ Commercial/Industrial Disposal ____ Aquifer Storage and Recovery ____ Drainage
Remediation: ____ Recovery ____ Air Sparge ____ Other (Describe) ____
____ Other (Describe) ____

12.*Drill Method: ____ Auger ____ Cable Tool ____ Rotary ____ Combination (Two or More Methods) ____ Jetted ____ Sonic ____ Horizontal Drilling ____ Hydraulic Point (Direct Push) X Other Trimmie Grout

13.*Measured Static Water Level ____ ft. Measured Pumping Water Level ____ ft. After ____ Hours at ____ GPM

14.*Measuring Point (Describe) ____ Which is ____ ft. ____ Above ____ Below Land Surface *Flowing: ____ Yes ____ No

15.*Casing Material: ____ Black Steel ____ Galvanized X PVC ____ Stainless Steel ____ Not Cased ____ Other

16.*Total Well Depth 47 ft. Cased Depth 42 ft. *Open Hole: From ____ To ____ ft. *Screen: From 42 To 47 ft. Slot Size .010

17.*Abandonment: ____ Other (Explain) ____

From	To	No. of Bags	Seal Material (Check One)
0 ft.	47 ft.	2.5	X Neat Cement ____ Bentonite ____ Other ____
ft.	ft.		____ Neat Cement ____ Bentonite ____ Other ____
ft.	ft.		____ Neat Cement ____ Bentonite ____ Other ____
ft.	ft.		____ Neat Cement ____ Bentonite ____ Other ____
ft.	ft.		____ Neat Cement ____ Bentonite ____ Other ____

18.*Surface Casing Diameter and Depth:

Dia	From	To	No. of Bags	Seal Material (Check One)
2 in.	0 ft.	42 ft.		X Neat Cement ____ Bentonite ____ Other ____
in.	ft.	ft.		____ Neat Cement ____ Bentonite ____ Other ____

19.*Primary Casing Diameter and Depth:

Dia	From	To	No. of Bags	Seal Material (Check One)
in.	ft.	ft.		____ Neat Cement ____ Bentonite ____ Other ____
in.	ft.	ft.		____ Neat Cement ____ Bentonite ____ Other ____
in.	ft.	ft.		____ Neat Cement ____ Bentonite ____ Other ____
in.	ft.	ft.		____ Neat Cement ____ Bentonite ____ Other ____
in.	ft.	ft.		____ Neat Cement ____ Bentonite ____ Other ____

20.*Liner Casing Diameter and Depth:

Dia	From	To	No. of Bags	Seal Material (Check One)
in.	ft.	ft.		____ Neat Cement ____ Bentonite ____ Other ____
in.	ft.	ft.		____ Neat Cement ____ Bentonite ____ Other ____
in.	ft.	ft.		____ Neat Cement ____ Bentonite ____ Other ____

21.*Telescope Casing Diameter and Depth:

Dia	From	To	No. of Bags	Seal Material (Check One)
in.	ft.	ft.		____ Neat Cement ____ Bentonite ____ Other ____
in.	ft.	ft.		____ Neat Cement ____ Bentonite ____ Other ____
in.	ft.	ft.		____ Neat Cement ____ Bentonite ____ Other ____

22. Pump Type (If Known): N/A
____ Centrifugal ____ Jet ____ Submersible ____ Turbine
Horsepower ____ Pump Capacity (GPM) ____
Pump Depth ____ ft. Intake Depth ____ ft.

23. Chemical Analysis (When Required):
Iron ____ ppm Sulfate ____ ppm Chloride ____ ppm
____ Laboratory Test ____ Field Test Kit

24. Water Well Contractor:
*Contractor Name Raymond Robinson *License Number 2633 E-mail Address rrobinson@core-encon.com
*Contractor's Signature [signature] *Driller's Name (Print or Type) Richard Allen
(I certify that the information provided in this report is accurate and true.)

DEP Form 62-532.900(2) Incorporated in 62-532.410, F.A.C. Effective Date October 7, 2010

*Permit No. 42969

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
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ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
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PHONE: (386) 329-4500
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P.O. BOX 24680
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9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From (ft.)	To (ft.)	Color	Grain Size (F, M, C)	Material

Comments:

***Detailed Site Map of Well Location**

SEE Attached site map & GPS Coordinates

wells Abandoned on this permit

OPF3-IW01S 15.25'
OPF3-IW01D 46.90'
OPF3-IW02D 46.80'

OPF-3 Confirmatory Sampling Locations Survey Info

Point	Easting	Northing	El.	Well	Description	El. (feet)
ODOP	234503.108	471372.213	1.645		Control Point	5.397
1	234090.717	471571.664	2.057	DPT	13	6.749
2	234091.961	471571.962	2.083	PZ-4	Top Of Casing	6.834
3	234091.373	471571.816	2.064		Ground El.	6.772
4	234089.332	471543.930	1.262	SEDIMENT	9	4.140
5	234059.827	471477.196	1.581	DPT	14	5.187
6	234061.271	471478.854	2.325	IW-1S	Top Of Casing	7.628
7	234060.809	471478.359	1.561		Ground El.	5.121
8	234092.633	471421.239	1.465	DPT	15	4.806
9	234094.894	471421.831	2.531	PZ-5	Top Of Casing	8.304
10	234094.755	471421.736	1.469		Ground El.	4.820
13	234003.189	471398.519	2.376	PZ-6	Top Of Casing	7.795
12	234003.159	471398.422	1.911		Ground El.	6.270
14	233883.060	471369.143	2.336	PZ-7	Top Of Casing	7.664
15	233883.135	471369.058	2.039		Ground El.	6.690
16	233960.292	471529.513	2.099	DPT	3	6.886
17	233990.203	471530.956	1.774	DPT	4C	5.820
18	233999.573	471538.268	1.771	DPT	4W	5.810
19	234002.051	471540.908	1.802	DPT	4N	5.912
20	234006.881	471540.390	1.763	DPT	4E	5.784
21	234003.515	471535.752	1.765	DPT	4S	5.791
22	233993.656	471542.430	2.199	PZ-2	Top Of Casing	7.215
23	233993.781	471542.447	1.927		Ground El.	6.322
24	234008.449	471533.891	1.710	DPT	4B	5.610
25	234011.655	471535.200	1.703	DPT	4D	5.587
26	234031.612	471513.875	1.445	SEDIMENT	8	4.741
27	234050.761	471533.872	1.542	SW	7	5.059
28	234041.960	471550.301	2.132	DPT	11	6.995
29	234050.193	471508.324	1.449	DPT	6	4.754
30	234017.308	471550.249	1.994	DPT	5	6.542
31	233937.418	471529.982	2.179	DPT	2	7.149
32	233908.957	471521.032	2.197	DPT	10	7.208
33	233889.217	471512.148	2.000	DPT	1	6.562
34	233887.762	471510.788	2.342	PZ-1	Top Of Casing	7.684
35	233887.812	471510.700	1.988		Ground El.	6.522
36	233850.635	471578.079	1.990	DPT	16	6.529
38	233936.894	471598.712	1.867		Ground El.	6.125
37	233937.074	471598.979	1.778	PZ-3	Top Of Casing	5.833
39	234104.603	471478.486	2.202	SET PK	Control Point	7.224

NOTE: Coordinates are in meters, State Plane of 1983.
Elevations are in meters, NAVD of 1988.

42969

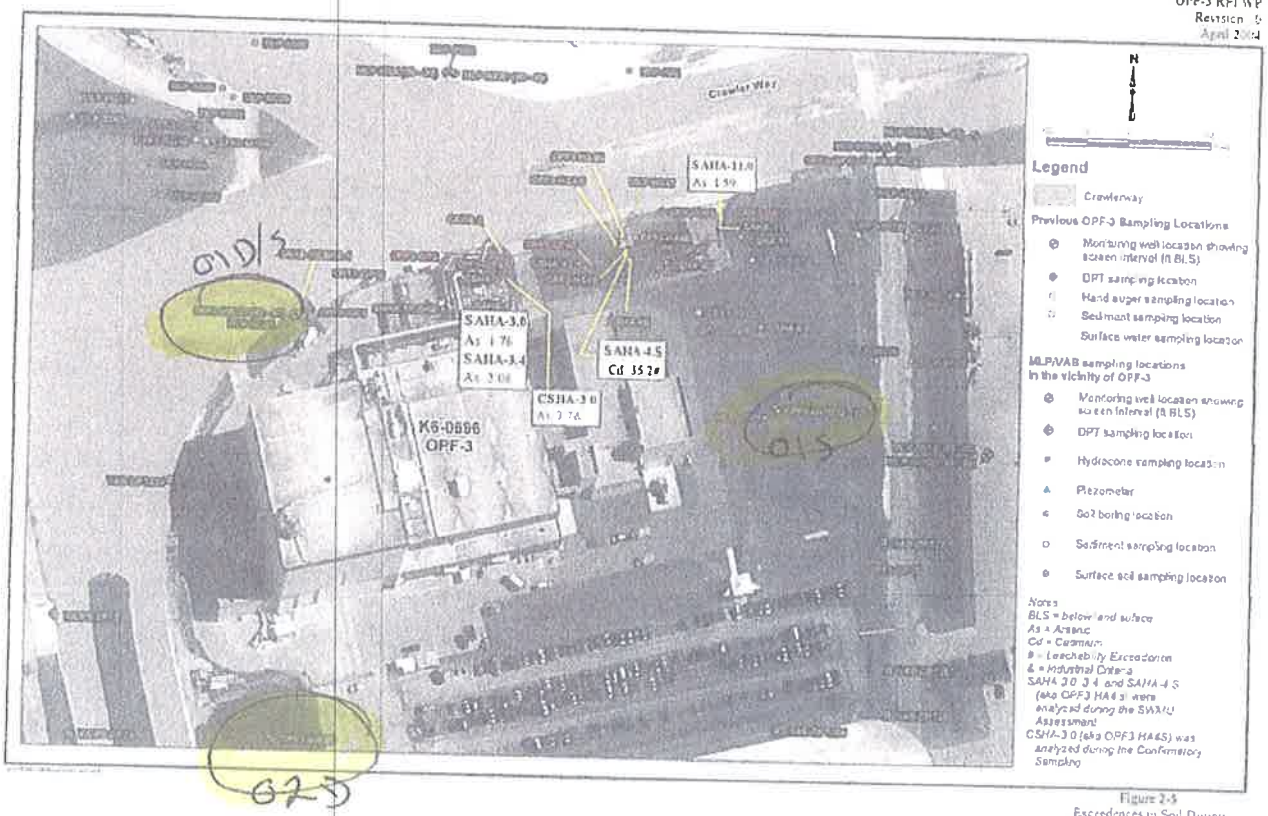

Figure 2-5
Exceedences in Soil During
SA and CS Activities at OPF-3
2-13 2

FLORIDA DEPARTMENT OF HEALTH – BREVARD COUNTY
Environmental Health Services
2725 Judge Fran Jamieson Way, Suite A116
Viera, Florida 32940-6605
PHONE: 321/633-2100 FAX: 321/633-2151
www.BrevardEH.com

WELL CONSTRUCTION PERMIT

Permit Number: 42970
Purpose: ABANDONMENT
Subdivision/Lot#: ROADS & GROUNDS FACILITY KSC-TA-7878 (3 WELLS)
Well Site Address: CONTRACTORS ROAD
KENNEDY SPACE CENTER FL

Application Date: 1/20/2016
Expiration Date: 1/20/2017
Permit Fee: $35.00

Well Contractor: Raymond Robinson **WWC #:** 2633 **WWC Phone #:** 407-467-7857

Owner Name: UNITED STATES GOVERNMENT
Owner Address: P O BOX 366 **Suite/Unit#:**
TITUSVILLE FL 32781-
Owner Phone #:

Issuance of this permit does not relieve the well owner of meeting the permit requirements of county, municipal, or other legally constituted authorities. The well contractor must meet the well set-back per Chapter 62-532, F.A.C., Table 1. Any variance from these setbacks or change to site plan must be approved in advance by Environmental Health Services.

Inspection Details: **Circle One:** OSTDS or Sewer **Foundation Setback:** _____'

- ☑ Site Plan
- ☐ Well ID Tag
- ☐ Casing Height _____"
- ☐ Grout Depth _____"
- ☐ Completion Report ____/____/____
- ☐ OSTDS Site Setback _____'
- ☐ OSTDS AP Setback _____'
- ☐ OSTDS/Well - Final ____/____/____
- ☐ Bacteriological Result ____/____/____
- ☐ Nitrate Result ____/____/____
- ☐ Variance Application Date ____/____/____
- ☐ Variance Approval Date ____/____/____
- ☐ Warning Notice Sent ____/____/____
- ☐ Compliance Letter Sent ____/____/____
- ☐ Other: _____

Notes:

	Original Site Visit	Construction Date	Re-Inspection Date	Final Date
Date				
Initials				

THIS PERMIT IS ISSUED BY THE AUTHORIZED REPRESENTATIVE OF THE FLORIDA DEPARTMENT OF HEALTH UNDER THE AUTHORITY OF CHAPTER 381, 402, 403, 513, 514, AND 469 PARTIII, FLORIDA STATUTES, FLORIDA ADMINISTRATIVE CODE AND BREVARD COUNTY CODE SECTION 46-36 THRU 46-72 ARTICLE II ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS AND WATER WELL PERMITTING THIS PERMIT IS SUBJECT TO SUSPENSION OR REVOCATION WHEN IT IS DETERMINED BY THE DEPARTMENT THAT THE OPERATION, CONDITIONS AND/OR DEPARTMENT STANDARDS ARE NOT BEING MET.

DISPLAY IN A CONSPICUOUS PLACE – THIS PERMIT IS NON-TRANSFERABLE

Application

STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

PAID JAN 19 2016

☐ Southwest
☐ Northwest
☒ St. Johns River
☐ South Florida
☐ Suwannee River
☐ DEP
☑ Delegated Authority (If Applicable) Brevard - FLDOH

PLEASE FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)
The Water Well Contractor is responsible for completing this form and forwarding the permit application to the appropriate delegated authority where applicable.

Permit No. 42970
Florida Unique ID
Permit Stipulations Required (See Attached)
62-524 Quad No. ______ Delineation No. ______
CUP/WUP Application No. ______
ABOVE THIS LINE - FOR OFFICIAL USE ONLY

1. NASA John F. Kennedy Space Center — Kennedy Space Center FL
*Owner's Legal Name if Corporation — *Address — *City — *State — *ZIP — *Telephone Number

2. Roads and Grounds KSC-TA-7878 Contractors Road K6-2196
Well Location - Address, Road Name or Number, City

3. 22-36-22-00-00.00
*Parcel ID No. (PIN) or Alternate Key (Circle One) — Lot 00 — Block 00 — Unit 00

4. 22 — 22 — 36
*Section or Land Grant — *Township — *Range — *County — Subdivision
Check if 62-524 ___ Yes ___ No

5. Raymond Robinson — 2633 — 407-467-7857 — robinson@core-envcon.com
*Water Well Contractor — *License Number — *Telephone Number — E-mail Address

6. 1020 Railroad Ave — Winter Park — FL — 32789
*Water Well Contractor's Address — City — State — ZIP

7. *Type of Work: ___ Construction ___ Repair ___ Modification ✓ Abandonment — No Longer Needed
*Reason for Repair, Modification, or Abandonment

8. *Number of Proposed Wells 3

9. *Specify Intended Use(s) of Well(s):

___ Domestic
___ Bottled Water Supply
___ Public Water Supply (Limited Use/DOH)
___ Public Water Supply (Community or Non-Community/DEP)
___ Class I Injection
___ Landscape Irrigation
___ Recreation Area Irrigation
___ Agricultural Irrigation
___ Livestock
___ Nursery Irrigation
___ Commercial/Industrial
___ Golf Course Irrigation
___ Site Investigation
✓ Monitoring
___ Test
___ Earth-Coupled Geothermal
___ HVAC Supply
___ HVAC Return

Class V Injection: ___ Recharge ___ Commercial/Industrial Disposal ___ Aquifer Storage and Recovery ___ Drainage

Remediation: ___ Recovery ___ Air Sparge ___ Other (Describe) ______

___ Other (Describe) ______

(Note: Not all types of wells are permitted by a given permitting authority)

RECEIVED JAN 19 2016 BY: DCH
Official Use Only

10. *Distance from Septic System if ≤200 ft. U.K. 11. Facility Description Maintenance FAC 12. Estimated Start Date 1-25-16

13. Estimated Well Depth 15 ft. *Estimated Casing Depth 5 ft. *Primary Casing Diameter 2 in. Open Hole: From ___ To ___ ft.

14. Estimated Screen Interval: From 5 To 15 ft.

15. *Primary Casing Material: ___ Black Steel ___ Galvanized ✓ PVC ___ Stainless Steel ___ Not Cased ___ Other ______

16. Secondary Casing ___ Telescope Casing ___ Liner ___ Surface Casing Diameter ___ in.

17. Secondary Casing Material ___ Black Steel ___ Galvanized ___ PVC ___ Stainless Steel ___ Other ______

18. *Method of Construction, Repair, or Abandonment: ___ Auger ___ Cable Tool ___ Jetted ___ Rotary ___ Sonic ___ Combination (Two or More Methods) ___ Hand Driven (Well Point, Sand Point) ___ Hydraulic Point (Direct Push) ___ Horizontal Drilling ✓ Plugged by Approved Method ✓ Other (Describe) Tremie Grout

19. Proposed Grouting Interval for the Primary, Secondary, and Additional Casing

From	To	Seal Material
From 0	To 15	Seal Material (___ Bentonite ✓ Neat Cement ___ Other ___)
From ___	To ___	Seal Material (___ Bentonite ___ Neat Cement ___ Other ___)
From ___	To ___	Seal Material (___ Bentonite ___ Neat Cement ___ Other ___)
From ___	To ___	Seal Material (___ Bentonite ___ Neat Cement ___ Other ___)

20. Indicate total number of existing wells on site 3 List number of existing unused wells on site ______

21. *Is this well or any existing well or water withdrawal on the owner's contiguous property covered under a Consumptive/Water Use Permit (CUP/WUP) or CUP/WUP Application? ___ Yes ✓ No If yes, complete the following: CUP/WUP No. ______ District Well ID No. ______

22. Latitude See Attachment Longitude ______

23. Data Obtained From ✓ GPS ___ Map ___ Survey Datum ___ NAD 27 ✓ NAD 83 ___ WGS 84

[illegible]

[illegible]

[signature] — 2633 — [signature] — 1-18-16
Signature of Contractor — *License No. — Signature of Owner or Agent — *Date

BELOW THIS LINE - FOR OFFICIAL USE ONLY

Approval Granted By Jill Love Issue Date 1/21/16 Expiration Date 1/21/17 Hydrologist Approval ______

Fee Received $ 135 Receipt No. 077366 VISA Check No. ______

THIS PERMIT IS NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD OR DELEGATED AUTHORITY. THE PERMIT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL CONSTRUCTION, REPAIR, MODIFICATION, OR ABANDONMENT ACTIVITIES.

Permit No. 42970

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PALM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

Comments:

- Abandon per Ch 40C-3 & 62-532.
- Submit completion reports within 30 days of completion.

*General Site Map of Proposed Well Location

SEE Attached site map & GPS Coordinates

N

Issuance of this permit does not relieve the well owner of meeting the permit requirements of county, municipal, or other legally constituted authorities.

Roads and Grounds

Identify known roads and landmarks. Give distances from all reference points or structures, septic systems, sanitary hazards, and contamination sources, if applicable.

STATE OF FLORIDA WELL COMPLETION REPORT

☐ Southwest
☐ Northwest
☐ St. Johns River
☐ South Florida
☐ Suwannee River
☐ DEP
☒ Delegated Authority (If Applicable) Brevard County

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

Date Stamp

Official Use Only

1.*Permit Number 42970 *CUP/WUP Number______ *DID Number______ 62-524 Delineation No. ______

2.*Number of permitted wells constructed, repaired, or abandoned 3 *Number of permitted wells not constructed, repaired, or abandoned 0

3.*Owner's Name NASA John F Kennedy Space Center 4.*Completion Date 1-29-16 5. Florida Unique ID ______

6. RDG Support Fac KSC-TH-7878 Kennedy Space Center FL
*Well Location - Address, Road Name or Number, City, ZIP

7.*County Brevard *Section______ Land Grant______ *Township______ *Range______

8. Latitude ______ Longitude ______

9. Data Obtained From: ✓ GPS ___ Map ___ Survey Datum: ___ NAD 27 ___ NAD 83 ___ WGS 84

10.*Type of Work: ___ Construction ___ Repair ___ Modification X Abandonment

11.*Specify Intended Use(s) of Well(s):
___ Domestic
___ Bottled Water Supply
___ Public Water Supply (Limited Use/DOH)
___ Public Water Supply (Community or Non-Community/DEP)
___ Class I Injection
___ Landscape Irrigation
___ Recreation Area Irrigation
___ Agricultural Irrigation
___ Livestock
___ Nursery Irrigation
___ Commercial/Industrial
___ Golf Course Irrigation
___ Site Investigation
X Monitoring
___ Test
___ Earth-Coupled Geothermal
___ HVAC Supply
___ HVAC Return
Class V Injection: ___ Recharge ___ Commercial/Industrial Disposal ___ Aquifer Storage and Recovery ___ Drainage
Remediation: ___ Recovery ___ Air Sparge ___ Other (Describe) ______
___ Other (Describe) ______

12.*Drill Method: ___ Auger ___ Cable Tool ___ Rotary ___ Combination (Two or More Methods) ___ Jetted ___ Sonic ___ Horizontal Drilling ___ Hydraulic Point (Direct Push) X Other Tremmie Grout

13.*Measured Static Water Level ______ ft. Measured Pumping Water Level ______ ft. After ______ Hours at ______ GPM

14.*Measuring Point (Describe) ______ Which is ______ ft. ___ Above ___ Below Land Surface *Flowing: ___ Yes ___ No

15.*Casing Material: ___ Black Steel ___ Galvanized X PVC ___ Stainless Steel ___ Not Cased ___ Other

16.*Total Well Depth 15 ft. Cased Depth 5 ft. *Open Hole: From 5 To 15 ft. *Screen: From 5 To 15 ft. Slot Size .010

17.*Abandonment: ___ Other (Explain) ______

From	To	No. of Bags	Seal Material (Check One)
0 ft.	15 ft.	1.5	✓ Neat Cement ___ Bentonite ___ Other ___
___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___
___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___
___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___
___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___

18.*Surface Casing Diameter and Depth:

Dia	From	To	No. of Bags	Seal Material (Check One)
2 in.	0 ft.	5 ft.	___	✓ Neat Cement ___ Bentonite ___ Other ___
___ in.	___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___

19.*Primary Casing Diameter and Depth:

Dia	From	To	No. of Bags	Seal Material (Check One)
___ in.	___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___
___ in.	___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___
___ in.	___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___
___ in.	___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___
___ in.	___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___

20.*Liner Casing Diameter and Depth:

Dia	From	To	No. of Bags	Seal Material (Check One)
___ in.	___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___
___ in.	___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___
___ in.	___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___

21.*Telescope Casing Diameter and Depth:

Dia	From	To	No. of Bags	Seal Material (Check One)
___ in.	___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___
___ in.	___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___
___ in.	___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___

22. Pump Type (If Known): N/A
___ Centrifugal ___ Jet ___ Submersible ___ Turbine
Horsepower ______ Pump Capacity (GPM) ______
Pump Depth ______ ft. Intake Depth ______ ft.

23. Chemical Analysis (When Required):
Iron ______ ppm Sulfate ______ ppm Chloride ______ ppm
___ Laboratory Test ___ Field Test Kit

24. Water Well Contractor:

*Contractor Name Raymond Robinson *License Number 2633 E-mail Address rrobinson@cove-encon.com

*Contractor's Signature [signature] (I certify that the information provided in this report is accurate and true.)

*Driller's Name (Print or Type) Richard Allen

*Permit No. 42970

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
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SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PALM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From_____ ft. To_____ ft. Color_____ Grain Size (F, M, C)_____ Material_____
From_____ ft. To_____ ft. Color_____ Grain Size (F, M, C)_____ Material_____
From_____ ft. To_____ ft. Color_____ Grain Size (F, M, C)_____ Material_____
From_____ ft. To_____ ft. Color_____ Grain Size (F, M, C)_____ Material_____
From_____ ft. To_____ ft. Color_____ Grain Size (F, M, C)_____ Material_____
From_____ ft. To_____ ft. Color_____ Grain Size (F, M, C)_____ Material_____
From_____ ft. To_____ ft. Color_____ Grain Size (F, M, C)_____ Material_____
From_____ ft. To_____ ft. Color_____ Grain Size (F, M, C)_____ Material_____
From_____ ft. To_____ ft. Color_____ Grain Size (F, M, C)_____ Material_____
From_____ ft. To_____ ft. Color_____ Grain Size (F, M, C)_____ Material_____
From_____ ft. To_____ ft. Color_____ Grain Size (F, M, C)_____ Material_____
From_____ ft. To_____ ft. Color_____ Grain Size (F, M, C)_____ Material_____
From_____ ft. To_____ ft. Color_____ Grain Size (F, M, C)_____ Material_____
From_____ ft. To_____ ft. Color_____ Grain Size (F, M, C)_____ Material_____
From_____ ft. To_____ ft. Color_____ Grain Size (F, M, C)_____ Material_____
From_____ ft. To_____ ft. Color_____ Grain Size (F, M, C)_____ Material_____
From_____ ft. To_____ ft. Color_____ Grain Size (F, M, C)_____ Material_____
From_____ ft. To_____ ft. Color_____ Grain Size (F, M, C)_____ Material_____
From_____ ft. To_____ ft. Color_____ Grain Size (F, M, C)_____ Material_____
From_____ ft. To_____ ft. Color_____ Grain Size (F, M, C)_____ Material_____
From_____ ft. To_____ ft. Color_____ Grain Size (F, M, C)_____ Material_____
From_____ ft. To_____ ft. Color_____ Grain Size (F, M, C)_____ Material_____
From_____ ft. To_____ ft. Color_____ Grain Size (F, M, C)_____ Material_____
From_____ ft. To_____ ft. Color_____ Grain Size (F, M, C)_____ Material_____
From_____ ft. To_____ ft. Color_____ Grain Size (F, M, C)_____ Material_____
From_____ ft. To_____ ft. Color_____ Grain Size (F, M, C)_____ Material_____

Comments:

***Detailed Site Map of Well Location**

N

SEE
Attached
site map
& GPS Coordinates

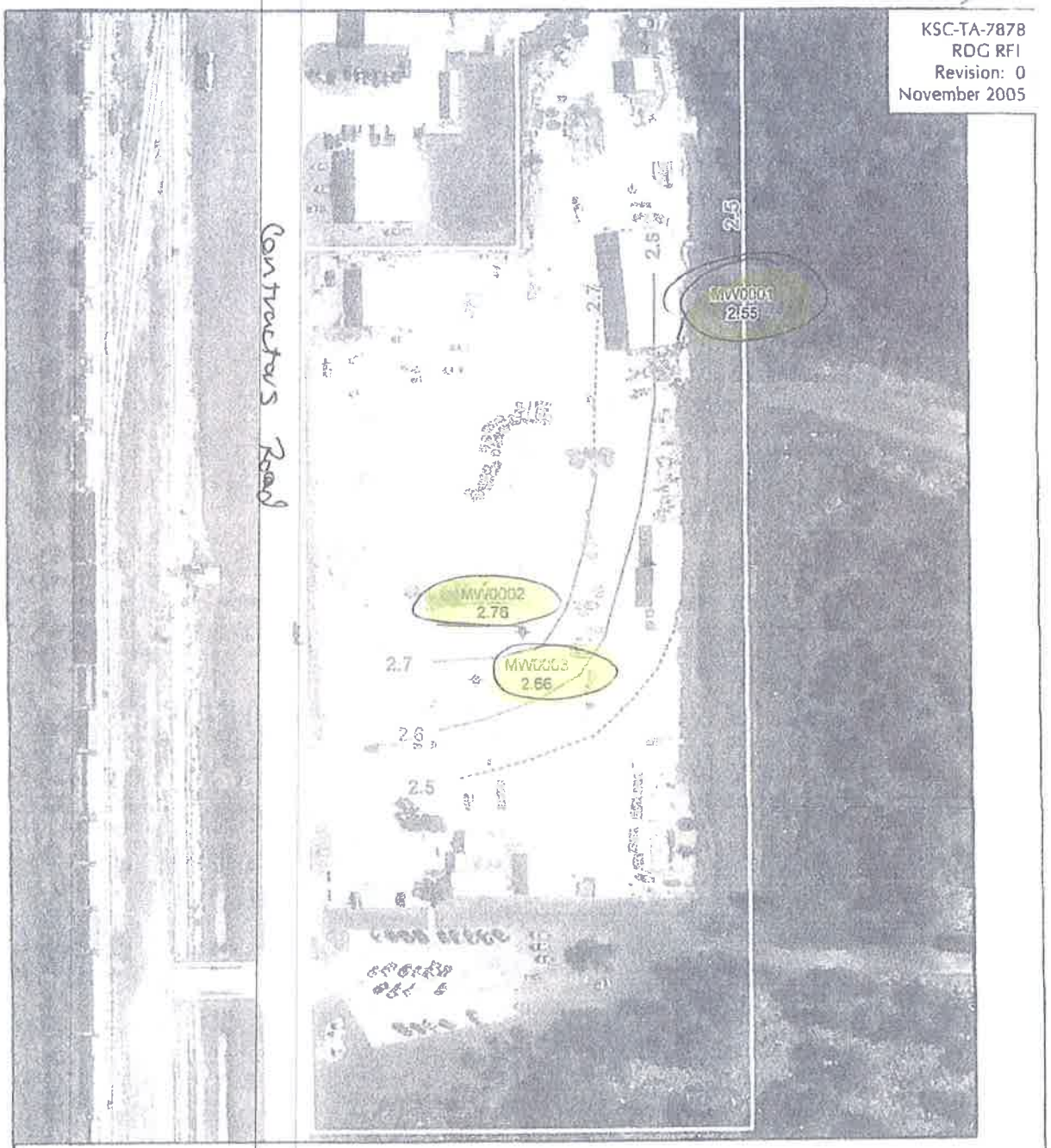
Table 3-2
RFI Survey Data
Roads and Grounds Facility
RCRA Facility Investigation Report
NASA Kennedy Space Center, Florida

	Meters				Feet			
Sample ID	Northing	Easting	Ground Elevation (ft NGVD)	Top of Casing Elevation (ft NGVD)	Northing	Easting	Ground Elevation (ft NGVD)	Top of Casing Elevation (ft NGVD)
RDG-MW0001	469340.64	234018.75	1.20	1.22	1539828.40	767776.50	4.10	4.00
RDG-MW0002	469264.47	233954.51	2.22	2.23	1539578.50	767565.80	7.30	7.30
RDG-MW0003	469257.88	233920.70	2.52	2.47	1539556.90	767454.80	8.30	8.11
RDG-SB0001	469335.44	234010.29	1.56	–	1539811.40	767748.80	5.10	–
RDG-SB0002	469334.85	234012.67	1.55	–	1539809.40	767756.60	5.10	–
RDG-SB0003	469332.14	234010.30	1.58	–	1539800.50	767748.80	5.20	–
RDG-SB0004	469351.76	234017.68	1.20	–	1539864.90	767773.00	3.90	–
RDG-SB0005	469345.20	233930.68	2.13	–	1539843.40	767487.60	7.00	–
RDG-SB0006	469273.37	233914.91	2.32	–	1539607.70	767435.80	7.60	–
RDG-SB0007	469254.18	233908.13	2.29	–	1539544.80	767413.60	7.50	–
RDG-SB0008	469244.76	233923.58	2.42	–	1539513.90	767464.30	8.00	–
RDG-SB0009	469273.01	233962.31	2.00	–	1539606.50	767591.30	6.60	–
RDG-SB0010	469276.37	233987.25	1.64	–	1539617.60	767673.20	5.40	–
RDG-SB0011	469255.51	233951.25	2.22	–	1539549.10	767555.10	7.30	–
RDG-SB0012	469264.85	233912.08	2.28	–	1539579.70	767426.50	7.50	–
RDG-SD0001	469379.15	234022.52	0.71	–	1539954.80	767788.90	2.30	–
RDG-SW0001	469331.84	234022.48	0.86	–	1539799.50	767788.70	2.80	–
RDG-SW0002	469419.40	234020.97	0.90	–	1540086.80	767783.80	3.00	–

Notes:
ft NGVD - feet National Geodetic Vertical Datum
Horizontal Survey Data are in National American Datum 1988, feet and meters
Vertical Survey Data are in National American Datum 1983, feet and meters

42970

KSC-TA-7878
RDG RFI
Revision: 0
November 2005



Legend

- SWMU Boundary
- Monitoring Well Location

Groundwater Contours

- Inferred Groundwater Contour
- Groundwater Contour

Notes
RCRA - Resource, Conservation, and Recovery Act
RFI - RCRA Facility Investigation
SWMU - Solid Waste Management Unit

RECEIVED
JAN 20 2006
BY: DCM

0 150 300
Scale in Feet

Groundwater Contours for August 18, 2005
Roads and Grounds Facility
RCRA Facility Investigation

NASA Kennedy Space Center, Florida

Project Number: 004-11302-22

Figure 3-2

FLORIDA DEPARTMENT OF HEALTH – BREVARD COUNTY
Environmental Health Services
2725 Judge Fran Jamieson Way, Suite A116
Viera, Florida 32940-6605
PHONE: 321/633-2100 FAX: 321/633-2151
www.BrevardEH.com

WELL CONSTRUCTION PERMIT

Permit Number: 42971
Purpose: ABANDONMENT
Subdivision/Lot#: K6-446
Well Site Address: SRB PROCESSING FACILITY
KENNEDY SPACE CENTER FL

Application Date: 1/20/2016
Expiration Date: 1/20/2017
Permit Fee: $35.00

Well Contractor: Raymond Robinson WWC #: 2633 WWC Phone #: 407-467-7857

Owner Name: UNITED STATES GOVERNMENT
Owner Address: P O BOX 366
TITUSVILLE FL 32781-
Suite/Unit#:
Owner Phone #:

Issuance of this permit does not relieve the well owner of meeting the permit requirements of county, municipal, or other legally constituted authorities. The well contractor must meet the well set-back per Chapter 62-532, F.A.C., Table 1. Any variance from these setbacks or change to site plan must be approved in advance by Environmental Health Services.

Inspection Details:

Circle One: OSTDS or Sewer

Foundation Setback: _____'

- ☐ Site Plan
- ☐ Well ID Tag
- ☐ Casing Height _____"
- ☐ Grout Depth _____"
- ☐ Completion Report ____/____/____
- ☐ OSTDS Site Setback _____'
- ☐ OSTDS AP Setback _____'
- ☐ OSTDS/Well - Final ____/____/____
- ☐ Bacteriological Result ____/____/____
- ☐ Nitrate Result ____/____/____
- ☐ Variance Application Date ____/____/____
- ☐ Variance Approval Date ____/____/____
- ☐ Warning Notice Sent ____/____/____
- ☐ Compliance Letter Sent ____/____/____
- ☐ Other: _____

Notes:

	Original Site Visit	Construction Date	Re-Inspection Date	Final Date
Date				
Initials				

THIS PERMIT IS ISSUED BY THE AUTHORIZED REPRESENTATIVE OF THE FLORIDA DEPARTMENT OF HEALTH UNDER THE AUTHORITY OF CHAPTER 381, 402, 403, 513, 514, AND 489 PARTIII, FLORIDA STATUTES, FLORIDA ADMINISTRATIVE CODE AND BREVARD COUNTY CODE SECTION 46-36 THRU 46-72 ARTICLE II ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS AND WATER WELL PERMITTING. THIS PERMIT IS SUBJECT TO SUSPENSION OR REVOCATION WHEN IT IS DETERMINED BY THE DEPARTMENT THAT THE OPERATION, CONDITIONS AND/OR DEPARTMENT STANDARDS ARE NOT BEING MET

DISPLAY IN A CONSPICUOUS PLACE – THIS PERMIT IS NON-TRANSFERABLE

Application

STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

PAID
JAN 1 9 2016

☐ Southwest
☐ Northwest
☒ St. Johns River
☐ South Florida
☐ Suwannee River
☐ DEP
☒ Delegated Authority (If Applicable) Brevard - FLDOH

PLEASE FILL IN ALL APPLICABLE FIELDS
(* Denotes Required Fields Where Applicable)

The water well contractor is responsible for completing this form and forwarding the permit application to the appropriate delegated authority where applicable.

Permit No. 42971
Florida Unique ID ______
Permit Stipulations Required (See Attached)
62-524 Quad No ______ Delineation No ______
CUP/WUP Application No ______
ABOVE THIS LINE - FOR OFFICIAL USE ONLY

1. NASA John F. Kennedy Space Center — Kennedy Space Center FL
*Owner Legal Name if Corporation / *Address / *City / *State / *ZIP / *Telephone Number

2. NASA/KSC K6-1446 — Kennedy Space Center FL.
Well Location - Address, Road Name or Number, City

3. 22-36-22-00-00-00 — Lot 00 — Block 00 — Unit 00
*Parcel ID No. (PIN) or Alternate Key (Circle One)

4. 22 — 22 — 36
*Section or Land Grant / *Township / *Range / *County / Subdivision
Check if 62-524 ___ Yes ___ No

5. Raymond Robinson — 2633 — 407-467-7857 — rrobinson@core-envcon.com
*Water Well Contractor / *License Number / *Telephone Number / E-mail Address

6. 1020 Railroad Ave — Winter Park — FL — 32789
*Water Well Contractor's Address / City / State / ZIP

7. *Type of Work: ___ Construction ___ Repair ___ Modification ✓ Abandonment — No Longer Needed
*Reason for Repair, Modification, or Abandonment

8. *Number of Proposed Wells 1

9. *Specify Intended Use(s) of Well(s)

___ Domestic
___ Bottled Water Supply
___ Public Water Supply (Limited Use/DOH)
___ Public Water Supply (Community or Non-Community/DEP)
___ Class I Injection
___ Landscape Irrigation
___ Recreation Area Irrigation
___ Agricultural Irrigation
___ Livestock
___ Nursery Irrigation
___ Commercial/Industrial
___ Golf Course Irrigation
___ Site Investigation
✓ Monitoring
___ Test
___ Earth-Coupled Geothermal
___ HVAC Supply
___ HVAC Return

Class V Injection: ___ Recharge ___ Commercial/Industrial Disposal ___ Aquifer Storage and Recovery ___ Drainage
Remediation: ___ Recovery ___ Air Sparge ___ Other (Describe) ______
___ Other (Describe) ______
(Note: Not all types of wells are permitted by a given permitting authority)

Date Stamp
RECEIVED
JAN 1 9 2016
BY: DCH
Official Use Only

10. *Distance from Septic System if ≤ 200 ft U/K 11. Facility Description SRB Processing 12. Estimated Start Date 1-25-16

13. *Estimated Well Depth 13 ft. *Estimated Casing Depth 3 ft. *Primary Casing Diameter 2 in. Open Hole: From ___ To ___ ft.

14. *Estimated Screen Interval: From 3 To 13 ft.

15. *Primary Casing Material ___ Black Steel ___ Galvanized ✓ PVC ___ Stainless Steel ___ Not Cased ___ Other ___

16. Secondary Casing ___ Telescope Casing ___ Liner ___ Surface Casing Diameter ___ in.

17. Secondary Casing Material ___ Black Steel ___ Galvanized ___ PVC ___ Stainless Steel ___ Other ___

18. *Method of Construction, Repair, or Abandonment: ___ Auger ___ Cable Tool ___ Jetted ___ Rotary ___ Sonic ___ Combination (Two or More Methods) ___ Hand Driven (Well Point, Sand Point) ___ Hydraulic Point (Direct Push) ___ Horizontal Drilling ✓ Plugged by Approved Method ✓ Other (Describe) Tremie Grout

19. Proposed Grouting Interval for the Primary, Secondary, and Additional Casing

From	To	Seal Material			
0	13	Seal Material	Bentonite	✓ Neat Cement	Other
		Seal Material	Bentonite	Neat Cement	Other
		Seal Material	Bentonite	Neat Cement	Other
		Seal Material	Bentonite	Neat Cement	Other

20. Indicate total number of existing wells on site 1 List number of existing unused wells on site ______

21. Is this well or any existing well or water withdrawal on the owner's contiguous property covered under a Consumptive/Water Use Permit (CUP/WUP) or CUP/WUP Application? ___ Yes ✓ No If yes, complete the following: CUP/WUP No. ______ District Well ID No. ______

22. ~~Latitude~~ Northing 1547764.50 ~~Longitude~~ Easting 611229.58

23. Data Obtained From: ✓ GPS ___ Map ___ Survey Datum: ___ NAD 27 ✓ NAD 83 ___ WGS 84

[illegible]

I certify that I am the owner of the property, that the information provided is accurate, and that I am aware of my responsibilities under Chapter 373, Florida Statutes, [illegible]

[signature] — 2633 — [signature] — 1-18-16
Signature of Contractor / License No. / Signature of Owner or Agent / Date

BELOW THIS LINE - FOR OFFICIAL USE ONLY

Approval Granted By Jill Love Issue Date 1/21/16 Expiration Date 1/21/17 Hydrologist Approval ______

Fee Received $ 35.00 Receipt No. Visa 077366 Check No. ______

THIS PERMIT IS NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD OR DELEGATED AUTHORITY. THE PERMIT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL CONSTRUCTION, REPAIR, MODIFICATION, OR ABANDONMENT ACTIVITIES.

Permit No. 4297/

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PALM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

Comments:

- Abandon per Ch 40C-3 & 62-532
- Submit completion report within 30 days of completion.

*General Site Map of Proposed Well Location

SEE Attached site map

N

Issuance of this permit does not relieve the well owner of meeting the permit requirements of county, municipal, or other legally constituted authorities.

SRB

Identify known roads and landmarks. Give distances from all reference points or structures, septic systems, sanitary hazards, and contamination sources, if applicable.

STATE OF FLORIDA WELL COMPLETION REPORT

☐ Southwest
☐ Northwest
☐ St. Johns River
☐ South Florida
☐ Suwannee River
☐ DEP
☒ Delegated Authority (If Applicable) Brevard County

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

Date Stamp

Official Use Only

1.*Permit Number 42971 *CUP/WUP Number ______ *DID Number ______ 62-524 Delineation No. ______

2.*Number of permitted wells constructed, repaired, or abandoned 1 *Number of permitted wells not constructed, repaired, or abandoned 0

3.*Owner's Name NASA John F Kennedy Space Center 4.*Completion Date 1-29-16 5. Florida Unique ID ______

6. Solid Rocket Booster Processing Fac. NASA KSC FL
*Well Location - Address, Road Name or Number, City, ZIP

7.*County Brevard *Section ______ Land Grant ______ *Township ______ *Range ______

8. Latitude ______ Longitude ______

9. Data Obtained From: ✓ GPS ___ Map ___ Survey   Datum: ___ NAD 27 ___ NAD 83 ___ WGS 84

10.*Type of Work: ___ Construction ___ Repair ___ Modification X Abandonment

11.*Specify Intended Use(s) of Well(s):
___ Domestic
___ Bottled Water Supply
___ Public Water Supply (Limited Use/DOH)
___ Public Water Supply (Community or Non-Community/DEP)
___ Class I Injection
___ Landscape Irrigation
___ Recreation Area Irrigation
___ Agricultural Irrigation
___ Livestock
___ Nursery Irrigation
___ Commercial/Industrial
___ Golf Course Irrigation
___ Site Investigation
X Monitoring
___ Test
___ Earth-Coupled Geothermal
___ HVAC Supply
___ HVAC Return

Class V Injection: ___ Recharge ___ Commercial/Industrial Disposal ___ Aquifer Storage and Recovery ___ Drainage
Remediation: ___ Recovery ___ Air Sparge ___ Other (Describe) ______
___ Other (Describe) ______

12.*Drill Method: ___ Auger ___ Cable Tool ___ Rotary ___ Combination (Two or More Methods) ___ Jetted ___ Sonic ___ Horizontal Drilling ___ Hydraulic Point (Direct Push) X Other Tremmie Grout

13.*Measured Static Water Level ______ ft. Measured Pumping Water Level ______ ft. After ______ Hours at ______ GPM

14.*Measuring Point (Describe) ______ Which is ___ ft. ___ Above ___ Below Land Surface *Flowing: ___ Yes ___ No

15.*Casing Material: ___ Black Steel ___ Galvanized X PVC ___ Stainless Steel ___ Not Cased ___ Other

16.*Total Well Depth 12.8 ft. Cased Depth 2.8 ft. *Open Hole: From ___ To ___ ft. *Screen: From 2.8 To 12.8 ft. Slot Size .010

17.*Abandonment: ___ Other (Explain) ______

From	To	No. of Bags	Seal Material (Check One)
0 ft.	12.8 ft.	1	✓ Neat Cement ___ Bentonite ___ Other ___
___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___
___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___
___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___
___ ft.	___ ft.	___	___ Neat Cement ___ Bentonite ___ Other ___

18.*Surface Casing Diameter and Depth:
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___ (×2)

19.*Primary Casing Diameter and Depth:
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___ (×5)

20. Liner Casing Diameter and Depth:
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___ (×3)

21.*Telescope Casing Diameter and Depth:
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___ (×3)

22. Pump Type (If Known): N/A
___ Centrifugal ___ Jet ___ Submersible ___ Turbine
Horsepower ___ Pump Capacity (GPM) ___
Pump Depth ___ ft. Intake Depth ___ ft.

23. Chemical Analysis (When Required):
Iron ___ ppm Sulfate ___ ppm Chloride ___ ppm
___ Laboratory Test ___ Field Test Kit

24. Water Well Contractor:
*Contractor Name Raymond Robinson *License Number 2633 E-mail Address rrobinson@cove-enclose.com
*Contractor's Signature [signature] *Driller's Name (Print or Type) Richard Allen
(I certify that the information provided in this report is accurate and true.)

*Permit No. 42971

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
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***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

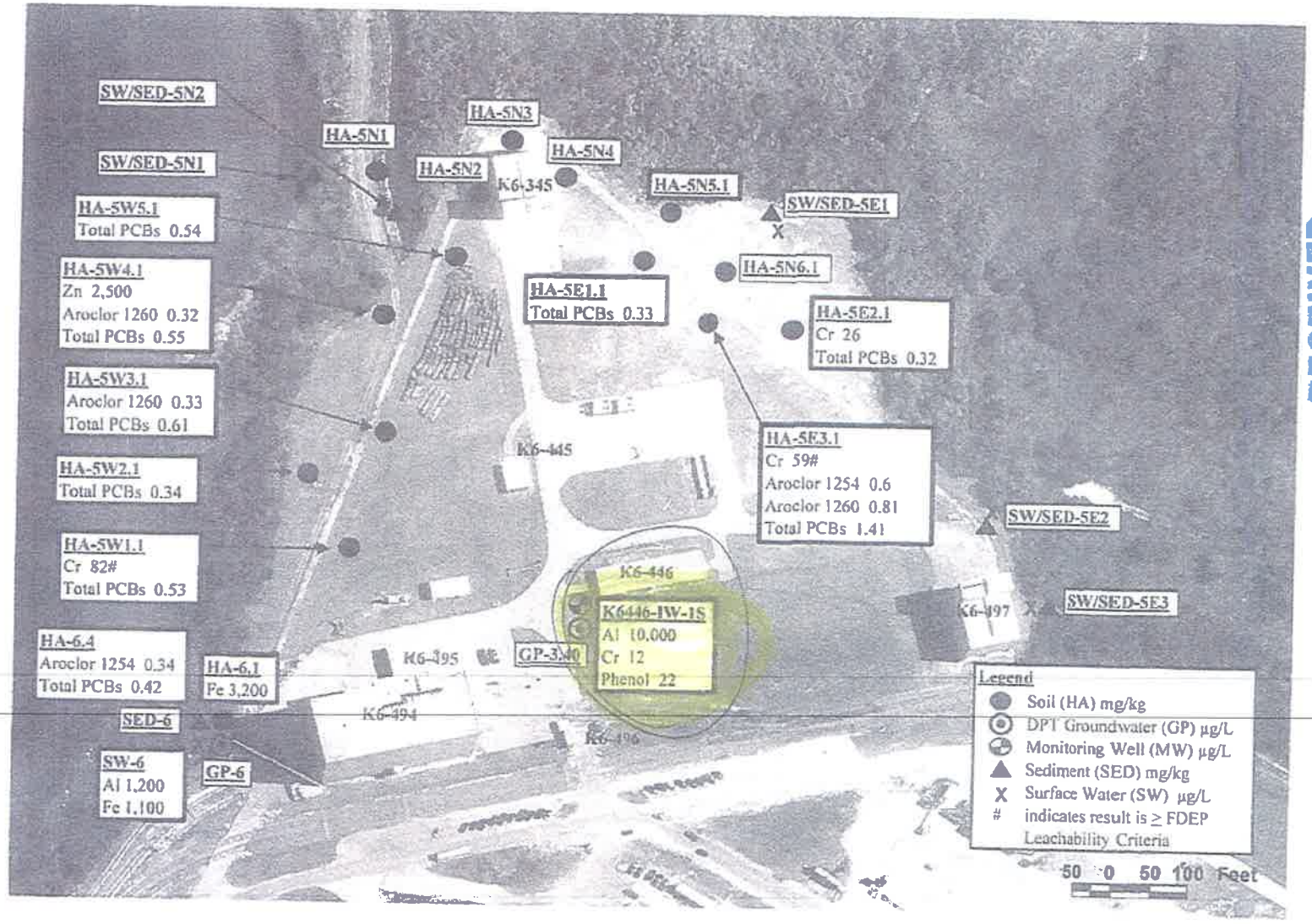
From		To		Color	Grain Size (F, M, C)	Material
From ____	ft.	To ____	ft.	Color ____	Grain Size (F, M, C) ____	Material ____
From ____	ft.	To ____	ft.	Color ____	Grain Size (F, M, C) ____	Material ____
From ____	ft.	To ____	ft.	Color ____	Grain Size (F, M, C) ____	Material ____
From ____	ft.	To ____	ft.	Color ____	Grain Size (F, M, C) ____	Material ____
From ____	ft.	To ____	ft.	Color ____	Grain Size (F, M, C) ____	Material ____
From ____	ft.	To ____	ft.	Color ____	Grain Size (F, M, C) ____	Material ____
From ____	ft.	To ____	ft.	Color ____	Grain Size (F, M, C) ____	Material ____
From ____	ft.	To ____	ft.	Color ____	Grain Size (F, M, C) ____	Material ____
From ____	ft.	To ____	ft.	Color ____	Grain Size (F, M, C) ____	Material ____
From ____	ft.	To ____	ft.	Color ____	Grain Size (F, M, C) ____	Material ____
From ____	ft.	To ____	ft.	Color ____	Grain Size (F, M, C) ____	Material ____
From ____	ft.	To ____	ft.	Color ____	Grain Size (F, M, C) ____	Material ____
From ____	ft.	To ____	ft.	Color ____	Grain Size (F, M, C) ____	Material ____
From ____	ft.	To ____	ft.	Color ____	Grain Size (F, M, C) ____	Material ____
From ____	ft.	To ____	ft.	Color ____	Grain Size (F, M, C) ____	Material ____
From ____	ft.	To ____	ft.	Color ____	Grain Size (F, M, C) ____	Material ____
From ____	ft.	To ____	ft.	Color ____	Grain Size (F, M, C) ____	Material ____
From ____	ft.	To ____	ft.	Color ____	Grain Size (F, M, C) ____	Material ____
From ____	ft.	To ____	ft.	Color ____	Grain Size (F, M, C) ____	Material ____
From ____	ft.	To ____	ft.	Color ____	Grain Size (F, M, C) ____	Material ____
From ____	ft.	To ____	ft.	Color ____	Grain Size (F, M, C) ____	Material ____
From ____	ft.	To ____	ft.	Color ____	Grain Size (F, M, C) ____	Material ____
From ____	ft.	To ____	ft.	Color ____	Grain Size (F, M, C) ____	Material ____
From ____	ft.	To ____	ft.	Color ____	Grain Size (F, M, C) ____	Material ____
From ____	ft.	To ____	ft.	Color ____	Grain Size (F, M, C) ____	Material ____
From ____	ft.	To ____	ft.	Color ____	Grain Size (F, M, C) ____	Material ____

Comments: ____________________

***Detailed Site Map of Well Location**

SEE
Attached
site map

Figure 2-6. SRB Processing Facility Confirmatory Sampling Human Health Exceedances



Source: Confirmatory Sampling Report, Solid Rocket Booster Processing Facility; May 2001